COMPETITION, CONSUMER TRUST AND CONSUMER CHOICE REVIEW TEAM DRAFT REPORT

ICANN

I. Executive Summary

The Affirmation of Commitments (AoC) called for a regular review of the degree to which the New Generic Top-Level Domain (gTLD) Program promoted consumer trust and choice and increased competition in the Domain Name System (DNS) market. This review is called the Competition, Consumer Trust and Consumer Choice Review (CCT review).[1] The AoC further called on the CCT reviews to evaluate the effectiveness of the application and evaluation process and the safeguards put in place to mitigate the risks associated with the expansion of the generic top-level domains. These reviews are important because they provide ICANN with an assessment of how the new gTLD round performed in these areas and guidance on key issues (including competition, consumer protection, security, malicious abuse and rights protection issues) as it contemplates further increases in the number of top-level domains (TLDs). The CCT Review Team (CCTRT) was asked to weigh the advantages and disadvantages of the New gTLD Program in these key areas and assess whether the program resulted in net benefits to the users of the DNS.

The Review Team endeavored to be as objective as possible and, where possible, to base its findings on available data. The more objective the findings, the more likely the impact of implemented recommendations can be measured. The idea of using metrics to evaluate the performance of the DNS began six years ago with an ICANN Board resolution[2] that called on the community to identify quantitative targets for consumer trust and choice as well as competition. Although the particular metrics developed at that time ultimately did not form the basis for the analysis, undertaken by the Review Team, in keeping with the approach that was developed then, the Team did strive to employ quantitative analysis wherever possible.

The CCTRT found that while the New gTLD Program is quite new and the data are incomplete, on balance, the expansion of the DNS marketplace has demonstrated increased competition and consumer choice and has been somewhat successful in mitigating its impact on consumer trust and rights (particularly trademark) protection. That said, the Review Team concluded that the New gTLD Program

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[1] On 30 September 2009, ICANN and the United States Department of Commerce signed the AoC, which—among other things—committed ICANN to periodically organize community-led review teams to assess the impact of the New gTLD Program on the domain name marketplace. In January 2017, the AoC expired following the IANA transition in October 2016. However, many of the provisions contained in the AoC—including community-led reviews of competition, choice, and trust in the domain name marketplace—have been incorporated into ICANN's revised bylaws (see ICANN, "Bylaws for Internet Corporation for Assigned Names and Numbers: Section 4.6: Specific Reviews," amended 1 October 2016, https://www.icann.org/resources/pages/governance/bylaws-en/#article4).

[2] ICANN Board Resolution 2010.12.10.30, "Consumer Choice, Competition and Innovation," (2010), accessed 20 January 2017, https://www.icann.org/resources/board-material/resolutions-2010-12-10-en#6

should be regarded only as a "good start" and that a number of policy issues should be addressed before any further expansion of gTLDs.

In particular, the CCTRT found that critical data were in short supply for the analysis of competition and the effectiveness of safeguards and for the promotion of consumer trust and geographic representation of applicants. Even the definition of the DNS market itself is problematic without additional data about whether consumers view new gTLDs as substitutes for other domain names, for example country code top-level domains (ccTLDs), or the degree to which alternative online identities such as Facebook and Yelp pages and third-level domains are substitutes. Consequently, the CCTRT recommends that ICANN enhance its capabilities to gather and analyze data, including that used by the ICANN Contractual Compliance department, prior to further expanding the gTLD program. We also identify certain policy issues that the community should resolve prior to the further expansion of the gTLD space. Finally, we recommend a number of specific research projects that should be completed prior to a future CCTRT, and in many cases, even sooner.

Background

Prior to the start of the CCTRT's work in January 2016, ICANN, together with the community, had begun preparatory work to identify metrics to inform the review. Data collection on these metrics began in 2014, and continued into 2016. In addition, ICANN commissioned two major research initiatives in 2015 (Wave 1[3]) in anticipation of the Review Team's work: a global consumer end-user and registrant survey and an economic study of the program's competitive effects. These surveys were repeated in 2016 (Wave 2[4]) to measure updates as more new gTLDs came into operation, and took into consideration, where applicable, additional questions and requirements raised by the CCTRT.

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In conducting its analysis, the Review Team was mindful of the fact that the New gTLD Program had only been in effect for a short period of time, that new domain names are continuously entering the marketplace, and thus the full effects of the program may have not yet been ascertained. The team used data that had previously been collected, and commissioned new research where it felt that important data points were missing, to help inform their analysis. The team broke its evaluation into three subteams:

- **Competition and Consumer Choice**. This subteam examined the effects of the entry of new gTLDs on price and non-price competition in the expanded domain name marketplace, as well as whether consumer choice in the marketplace was effectively enhanced with the introduction of new gTLDs.
- **Consumer Trust and Safeguards.** This subteam focused on the extent to which the expansion of new gTLDs has promoted consumer trust and the impact of the safeguards that had been adopted to mitigate any problems that might have arisen as a result of the program.

[3] Nielsen, *Consumer Research* (May 2015); Nielsen, *Registrant Survey* (September 2015)
[4] Nielsen, *Consumer Research* Wave 2 (June 2016); Nielsen, *Registrant Survey Wave 2* (August 2016)

- **Application and Evaluation Process.** The Review Team explored issues related to the effectiveness of the application process, with a particular focus on the applicant experience, the paucity of applications from underserved regions, and the objection processes.

Competition and Choice

While it is too early to fully evaluate the competitive effects of the introduction of 733 delegated new gTLDs as of February 2017 (excluding those that are considered .brands)[5], some preliminary findings suggest that the potential for effective competition exists and some important indicators are consistent with increased competition. Of particular note, more than half of new registrations of gTLDs have been in new gTLD strings. If ccTLDs are included, registrations are divided roughly into thirds among new gTLDs, legacy gTLDs and ccTLDs. Although the overall growth in registrations is insufficient for these developments to have resulted in dramatic shifts in market shares, the CCTRT nonetheless found that new gTLDs currently account for about 9% of registrations in all gTLDs, which suggests that registrants are making use of a broader range of gTLDs.

It is also interesting to note that in 92% of the cases in which a second-level domain was available in .com, the registrant nonetheless chose a second-level string in a new gTLD. For example, even if bigshotphotography.com was available, registrants often chose bigshots.photography instead, and in many cases were willing to spend more money to do so.

The structure of the domain name industry itself provides a partial explanation for the potential for sustained competition. In particular, the availability of independent back-end service providers and retailers (registrars) decreases barriers to entry because new registries do not need to invest in supplying their own in-house back-end infrastructure or developing their own sales channels. Consequently, smaller niche registries have a higher likelihood of achieving minimum viable scale.

Early indications are that the new rights protection mechanisms have succeeded in minimizing the level of defensive registration (i.e. registering a domain simply to prevent others from doing so) by most trademark holders without a significant increase in the number of trademark complaints lodged in the form of either Uniform Domain-Name Dispute-Resolution Procedure (UDRP) or Uniform Rapid Suspension (URS) filings. Further analysis of the distribution of defensive costs (including blocking – agreement with the registry not to sell a domain), direct communication (such as cease and desist correspondence and URS) is currently underway, but preliminary indications are that increases in defensive investment by trademark holders have been less than feared by some prior to the launch of the program.

One caveat to this analysis is the abundance of “parked” domains (those domains that have been registered but are not yet being used) among the new gTLDS. While not dispositive, disparate rates of parking may suggest that competition from new gTLDs is not as significant as indicated by the data reported above. The Review Team intends to address this issue in its final report. We need to mention

[5] gTLDs considered .brands for the purpose of this review are those which include Specification 13 in their registry agreements, or are exempt from the Registry Operator Code of Conduct.

that complete analysis of parking was hindered by unavailability of parking data for the legacy gTLDs which could have been useful for comparison purposes. We hope that such data will be collected in future reviews.

Consumer Trust and Safeguards

An international survey commissioned by the CCTRT indicates the domain industry is one of the most trusted in the tech sector and that the dramatic expansion of the DNS has done little thus far to undermine that trust.[6] A key component of this trust appears to be grounded in familiarity, with legacy gTLDs still more trusted than new gTLDS, and strings with recognized terms more trusted than strings with less familiar terms. In addition, there are indications of a desire among end users for a more semantic web where the domain name is a rational indicator of content.

Similarly, consumers reported that restrictions on who could purchase certain gTLDs would engender greater trust, particularly if the domain name itself suggests that the registrant might need to possess a certain license or credentials. These tendencies represent both an opportunity and a danger if the connection between names and content proves to be less direct.

Given the difficulty of measuring trust as an abstraction, the team explored the notion of "trustworthiness" as a proxy for consumer trust. For example, the CCTRT has fielded a study on DNS abuse – that as of this writing is not yet complete – to determine if rates of abuse are higher or lower among the new gTLDs. If abuse rates for new gTLDs are higher, one could reasonably be concerned about the erosion of consumer trust as familiarity with these bad practices becomes more widespread.

Other notable findings on the impact of the new gTLD safeguards include the following:

- 99% of registries have implemented safeguards regarding the prevention of abusive activities in their gTLDs as required in their registry-registrar agreements; however, the downstream impact is unclear
- ICANN reports that abuse complaint volumes are typically higher for registrars than registries, but it is difficult to determine if safeguards are affecting rates of abuse.
- WHOIS accuracy complaints remain the largest category of complaints to ICANN Contractual Compliance.
- ICANN Contractual Compliance has reported that 96% of the 264 registries that were reviewed in 2014 are performing the analysis that is required to determine if they are being used to perpetrate security threats.
- The Review Team examined the rates of UDRP and URS case filings, and found an overall decrease in the number of cases filed since 2012, although URS cases in new gTLDs have driven an approximately 10% increase in disputes since the recent low point in cases filed in 2013. We are awaiting more information on costs related to trademark enforcement before coming to more specific conclusions in this area.

[6] Nielsen, *Consumer Research Wave 2* (2016), 63-69

We also identified several challenges to our assessment of the extent to which safeguards mitigated risks involved in the expansion of the New gTLD Program.

As previously mentioned, one challenge to evaluating the impact of safeguards on trustworthiness is the lack of granularity in ICANN Contractual Compliance data. It is unclear what the impact of safeguards imposed on sensitive, regulated and highly regulated strings has been since complaints to registrants are difficult to track, as is the lack of detail publicly reported by ICANN Contractual Compliance regarding complaints that it receives. Moreover, provisions related to inherent government functions and cyberbullying that were incorporated into the registry agreements were difficult to measure as there were no consequences identified for a failure to comply with these provisions. Finally, the Public Interest Commitments (PICs) incorporated into registry agreements were particularly challenging to assess because they varied greatly. It remains unclear how effective enforcement has been.

Application and Evaluation

Here, the CCTRT chose to focus less on the complexity and any inefficiencies of the application and evaluation process and more on the potential inequities of the program as implemented. Of particular concern to the Review Team was the relatively low application rate from entities in the Global South.

The CCTRT commissioned two focus group efforts to explore applicant experiences, and barriers to entry for those who did not apply. Although more than half of the applicants to the New gTLD Program indicated they would go through the process again, even with no changes, a large majority indicated the program was overly complex and bureaucratic and that the assistance of outside consultants was necessary. Therefore, it should come as no surprise that a focus group of applicant cohorts (similar entities to those who applied) in the Global South indicated not only a lack of awareness of the program as a whole but concerns over the complexity of the application process and a lack of available assistance in applying. Although not the most frequently expressed concern, nearly every cohort expressed concerns about the return on investment from operating a new gTLD. Programs that were put in place to facilitate and encourage applications from the Global South were thought to be both poorly monitored and largely ineffective. The ICANN community needs to make a decision about the importance of applications from the Global South (and by extension, from other underrepresented regions) and, if appropriate, to take further steps to encourage those applications. It is clear that if the community wants more applications from underrepresented regions, more needs to be done.

Further analysis of the application process revealed that implementation of policies around issues such as string confusion was inconsistent and unpredictable. More clarity is needed in the applicant guidebook to reduce this inconsistency going forward.

Finally, the CCTRT found that GAC participation in the application and evaluation process was largely beneficial and led directly to modifications of applications and applicants more successfully navigating the process.

Recommendations

While two large research projects – study of DNS abuse and survey of trademark owners – are still underway, the CCTRT has reached some preliminary recommendations. These recommendations fall into three main categories:

- Requests for more and better data collection
- Policy issues to be addressed by the community
- Suggested reforms relating to transparency and data collection within ICANN Contractual Compliance

The recommendations have been assigned a priority by the CCTRT, reflecting the timeframe in which each should be implemented and the extent to which any particular recommendation should be a prerequisite to further expansion of the DNS.

Data Gathering

In general, the CCTRT work was hampered by insufficient data on pricing of domain names, including wholesale, retail and secondary market prices. In addition, collection of data about a country at a regional level would make it possible to assess competition in narrower geographic areas. Furthermore, the lack of data regarding DNS abuse and lack of more granular information about the subject matter of complaints received by ICANN Contractual Compliance also created obstacles to assessing the effectiveness of the safeguards and the trustworthiness of the new gTLDs. Some of this additional data collection will require changes to registry and registrar contracts, which will take some time, but the Review Team believes that it is necessary for proper evaluation of programmatic reforms in ICANN. Other data are collected by third parties, and also could be used by ICANN. To the extent possible, relevant data should be made available in nondisruptive and nonconfidential form to researchers both within and outside the ICANN community. The CCTRT recommends that data gathering become a priority inside ICANN with an emphasis on data-driven analysis and programmatic success measurement.

ICANN Contractual Compliance

The CCTRT finds that current data available from ICANN Contractual Compliance are insufficient to measure the enforcement of various contract provisions and the success of safeguards in mitigating downstream consequences to DNS expansion. Part of the problem is transparency, and part of that issue appears to be in the lack of granularity of the data that are being collected. The CCTRT make several recommendations for practical reform within ICANN Contractual Compliance.

Conclusion

Initial indications are that the New gTLD Program has led to a dramatic increase in consumer choice, a modest increase in competition and minimal impact on consumer trust. Nonetheless, the Review Team believes that there is a substantial need for more and better data on both competition and pricing and on the impact of safeguards on consumer protection.

II. CCT Review Team Recommendations

Recommendations are summarized in this table. The full recommendation, with related findings and rationale, may be found in the cited chapters.

Prerequisite or Priority Level: Per the ICANN Bylaws, the CCT Review Team indicated whether each recommendation must be implemented prior to the launch of subsequent procedures for new gTLDs. The Review Team agreed that those recommendations that were not categorized as prerequisites would be given a time-bound priority level:

- **High priority**: Must be implemented within 18 months of the issuance of a final report
- **Medium priority**: Must be implemented with 36 months of the issuance of a final report
- **Low priority**: Must be implemented prior to the start of the next CCT Review

#	Recommendation	To	Prerequisite or Priority Level*
	Chapter V. Data-Driven Analysis: Recommendations for Additional Data Collection and Analysis		
1	Formalize and promote ongoing data collection. The ICANN organization should establish a formal initiative, perhaps including a dedicated data scientist, to facilitate quantitative analysis, by staff, contractors and the community, of the domain name market and, where possible, the outcomes of policy implementation.	ICANN organization	High
	Chapter VI. Introduction to the Competition and Consumer Choice Analysis		
2	Collect wholesale pricing for legacy gTLDs. ICANN or an outside contractor should acquire wholesale price information from both legacy and new gTLD registries on a regular basis and provide necessary assurances that the data would be treated on a confidential basis. The data could then be used for analytic purposes by ICANN staff and by others that execute non-disclosure agreements. This may require amendment to the Base Registry Agreement for legacy gTLDs.	ICANN organization	Low

#	Recommendation	To	Prerequisite or Priority Level*
3	Collect transactional pricing for the gTLD marketplace. ICANN or an outside contractor should attempt to acquire at least some samples of wholesale price information from registries on a regular basis and provide necessary assurances that the data would be treated on a confidential basis. The data could then be used for analytic purposes by ICANN staff and by others that execute non-disclosure agreements.	ICANN organization	Medium
4	Collect retail pricing for the domain marketplace. We recommend that ICANN develop the capability to analyze these data on an ongoing basis. Alternatively, an amendment to the Registrar Accreditation Agreement would ensure the availability of this data with all due diligence to protect competitive information.	ICANN organization	Low
5	Collect parking data. ICANN should regularly track the proportion of TLDs that are parked with sufficient granularity to identify trends on a regional and global basis.	ICANN organization	High
6	Collect secondary market data. ICANN should engage with the secondary market community to better understand pricing trends.	ICANN organization	Prerequisite
7	Collect TLD sales at a country-by-country level. Some of this data is collected by third parties such as CENTR, so it is possible that ICANN can arrange to acquire the data.	ICANN organization	Low
8	Create, support and/or partner with mechanisms and entities involved with the collection of TLD sales data at a country-by-country level. Some regional organizations such as CENTR, AFTLD and APTLD are already engaged in data collection and statistical research initiatives. ICANN should strive to partner with these organizations and explore ways in which it can enhance the capacities of these organizations so that their output is geared to ICANN's data requirements. ICANN should also seek to promote the ability of these disparate organizations to coordinate their efforts in areas such as standardization of research and methodology, so that their data is comparable. The regional initiatives that ICANN has already undertaken, such as the LAC and MEA DNS Marketplace studies, should be undertaken at regular periods, as they too provide invaluable country-level and regional data.	ICANN organization	Prerequisite

#	Recommendation	To	Prerequisite or Priority Level*
Chapter VII. Consumer Choice			
9	Conduct a periodic survey of registrants. The survey should be designed and continuously improved to collect registrant trends. Some initial thoughts on potential questions is in Appendix F: Possible Questions for a Future Consumer Survey.	ICANN organization	Prerequisite
10	The ICANN community should consider whether the costs related to defensive registration for the small number of brands registering a large number of domains can be reduced.	Subsequent Procedures Policy Development Process (PDP) Working Group and/or Rights Protection Mechanisms (RPM)PDP Working Group	Prerequisite
11	The next consumer end-user and registrant surveys to be carried out should include questions to solicit additional information on the benefits of the expanded number, availability and specificity of new gTLDs. In particular, for any future consumer end-user surveys, a relative weighting of the positive contributions to consumer choice with respect to geographic name gTLDs, specific sector gTLDs and Internationalized Domain Name (IDN) gTLDs should help determine whether there is a clear preference by consumers for different types of gTLDs, and whether there are regional differences or similarities in their preferences. The next consumer end-user survey should also include further questions about whether confusion has been created for consumers in expanding the number and type of gTLDs, how they navigate to websites and if the nature and manner of search has an impact on confusion (positive, negative or indifferent). For registrants, it will be important to gather further data on the geographic distribution of gTLD registrants and the services provided to them by registrars, particularly in different regions, including languages offered for service interactions and locations beyond the primary offices. The next CCT review would then be able to assess in more detail these aspects, by which time there should be more data and a longer history of experience with the new gTLDs, and in particular with those in languages other than English and those using non-Latin scripts.	Next CCT Review and ICANN organization	Low

#	Recommendation	To	Prerequisite or Priority Level*
12	Collection and processing personal data should be more strictly regulated within rules which are mandatory for all gTLD registries. Registries should not be allowed to share personal data with third parties without consent of that person or under circumstances defined by applicable law. Also, it is necessary to be aware of new European personal data regulation – the General Data Protection Regulation (GDPR) – especially on issues such as the possible applicability of the regulation and "right to be forgotten."	ICANN organization	Medium
Chapter VIII. Consumer Trust			
13	Conduct a study to identify (1) which new gTLDs have been visited most; (2) the reasons users identify to explain why visited certain new gTLDs more than others; (3) what factors matter most to users in determining which gTLDs to visit and (4) how users' behaviors indicate to what extent they trust new gTLDs.	ICANN organization and future CCT	Prerequisite
14	Create incentives to encourage gTLD registries to meet user expectations regarding (1) the relationship of content of a gTLD to its name; (2) restrictions as to who can register a domain name in certain gTLDs based upon implied messages of trust conveyed by the name of its gTLDs (particularly in sensitive or regulated industries; and (3) the safety and security of users' personal and sensitive information (including health and financial information).	New gTLD Subsequent Procedures PDP Working Group	Prerequisite (incentives could be implemented as part of application process)
15	ICANN should repeat selected parts of global surveys (for consumer end-user and registrant surveys, in addition to necessary baseline and questions – repeat 700, 800, 900, and 1100 series survey questions and questions 775, 1000, 1036, 1050, 155 and 1060) to look for an increase in familiarity with new gTLDs, visitation of new gTLDs and perceived trustworthiness of new gTLDs.	ICANN organization	Prerequisite
16	ICANN should commission a study to collect data on the impact of restrictions on who can buy domains within certain new gTLDs (registration restrictions) to (1) compare consumer trust levels between new gTLDs with varying degrees of registration restrictions; (2) determine whether there are correlations between DNS abuse and the presence or absence of registration restrictions; (3) assess the costs and benefits of registration restrictions and (4) determine whether and how such registration restrictions are enforced.	ICANN organization	Low

#	Recommendation	To	Prerequisite or Priority Level*
Chapter IX. Safeguards			
17	ICANN should gather data to assess whether a significant percentage of WHOIS-related complaints applicable to new gTLDs relate to the accuracy of the identity of the registrant, and whether there are differences in behavior between new and legacy gTLDs. This data should include analysis of WHOIS accuracy complaints received by ICANN Contractual Compliance to identify the subject matter of the complaints (e.g., complaints about syntax, operability or identity) and compare the number of complaints about WHOIS syntax, operability or identity between legacy gTLDs and new gTLDs. ICANN should also identify other potential data sources of WHOIS complaints (registrars, registries, ISPs, etc.) and attempt to obtain anonymized data from these sources.	ICANN organization to gather required data, and to provide data to relevant review teams to consider the results and if warranted, to assess feasibility and desirability of moving to identity validation phase of WHOIS ARS project.	Medium
18	Once gathered (see Recommendation 18), this data regarding WHOIS accuracy should be considered by the upcoming WHOIS Review Team to determine whether additional steps are needed to improve WHOIS accuracy, particularly whether to proceed with the identity phase of the Accuracy Reporting System (ARS) project. Future CCT Reviews may also consider making use of this data if a differential in behavior is identified between legacy and new gTLDs.	ICANN organization to gather required data, and to provide data to relevant review teams to consider the results and if warranted, to assess feasibility and desirability of moving to identity validation phase of WHOIS ARS project.	Medium
19	Repeat data-gathering efforts that compare rates of abuse in domains operating under new Registry Agreement and Registrar Agreements to legacy gTLDs as future review teams deem necessary. Although we recommend a periodic data-gathering exercise, we anticipate that these studies will change over time as a result of input from the community and future review teams.	ICANN organization	High

#	Recommendation	To	Prerequisite or Priority Level*
20	The next CCTRT should review the proposed Registry Operator Framework when completed and assess whether the framework is a sufficiently clear and effective mechanism to mitigate abuse by providing for specified actions in response to security threats.	Future CCT Review Teams	Medium
21	Assess whether mechanisms to report and handle complaints have led to more focused efforts to combat abuse by determining (1) the volume of reports of illegal conduct in connection with the use of the TLD that registries receive from governmental and quasi governmental agencies and the volume of inquires that registries receive from the public related to malicious conduct in the TLD and (2) what actions registries have taken to respond to complaints of illegal or malicious conduct in connection with the use of the TLD. Such efforts could include surveys, focus groups or community discussions. If these methods proved ineffective, consideration could be given to amending future standard Registry Agreements to require registry operators to provide this information to ICANN. Once this information is gathered, future review teams should consider recommendations for appropriate follow-up measures.	ICANN organization and future CCT Review Teams	Medium
22	Assess whether more efforts are needed to publicize contact points where complaints that involve abuse or illegal behavior within a TLD should be directed.	ICANN organization and future CCT Review Teams	Medium
23	Include more detailed information on the subject matter of complaints in ICANN publicly available compliance reports. Specifically, more precise data on the subject matter of complaints, particularly (1) what type of law violation is being complained of and (2) an indication of whether complaints relate to the protection of sensitive health or financial information, would assist future review teams in their assessment of these safeguards.	ICANN organization	High
24	Initiate discussions with relevant stakeholders to determine what constitutes reasonable and appropriate security measures commensurate with the offering of services that involve the gathering of sensitive health and financial information. Such a discussion could include identifying what falls within the categories of "sensitive health and financial information" and what metrics could be used to measure compliance with this safeguard.	ICANN organization	High

#	Recommendation	To	Prerequisite or Priority Level*
25	ICANN should perform a study on highly regulated new gTLDs to include the following elements: steps registry operators are taking to establish working relationships with relevant government or industry bodies;	ICANN organization	High
26	the volume of complaints received by registrants from regulatory bodies and their standard practices to respond to those complaints;	ICANN organization	High
27	Assessment of a sample of domain websites within the highly regulated sector category to see whether contact information to file complaints is sufficiently easy to find;	ICANN organization	High
28	Assessment whether restrictions regarding possessing necessary credentials are being enforced by auditing registrars and resellers offering the highly regulated TLDs (i.e., can an individual or entity without the proper credentials buy a highly regulated domain?);	ICANN organization	High
29	Determining the volume and the subject matter of complaints regarding domains in highly regulated industries by seeking more detailed information from ICANN Contractual Compliance and registrars/resellers of highly regulated domains; and	ICANN organization	High
30	Compare rates of abuse between those highly regulated gTLDs that have voluntarily agreed to verify and validate credentials to those highly regulated gTLDs that have not.	ICANN organization	High
31	Determine whether ICANN Contractual Compliance has received complaints for a registry operator's failure to comply with either the safeguard related to gTLDs with inherent governmental functions or the safeguard related to cyberbullying.	ICANN organization	Low
32	Survey Registries to determine how they enforce these safeguards. to cyberbullying.	ICANN organization	Low
33	Collect data comparing subjective and objective trustworthiness of new gTLDs with restrictions on registration, to new gTLDs with few or no restrictions.	ICANN organization, PDP Working Group, and future CCT Review Teams	High
34	Repeat and refine the DNS Abuse Study to determine whether the presence of additional registration restrictions correlate to a decrease in abuse in new gTLDs, and as compared to new gTLDs that lack registration restrictions, and as compared to legacy gTLDs.	ICANN organization, PDP Working Group, and future CCT Review Teams	High

#	Recommendation	To	Prerequisite or Priority Level*
35	Collect data on costs and benefits of implementing various registration restrictions, including the impact on compliance costs and costs for registries, registrars and registrants. One source of this data might be existing gTLDs (for example, for verification and validation restrictions, we could look to those new gTLDs that have voluntarily included verification and validation requirements to get a sense of the costs involved).	ICANN organization, PDP Working Group and future CCT Review Teams	High
36	Gather public comments on the impact of new gTLD registration restrictions on competition to include whether restrictions have created undue preferences.	ICANN organization, PDP Working Group and future CCT Review Teams	High
37	The ICANN organization should improve the accessibility of voluntary public interest commitments by maintaining a publicly accessible database of these commitments, as extracted from the registry agreements	ICANN organization	Medium
38	Future gTLD applicants should state the goals of each of their voluntary PICs. The intended purpose is not discernible for many voluntary PICs, making it difficult to evaluate effectiveness.	ICANN organization and Subsequent Procedures PDP Working Group	Prerequisite
39	All voluntary PICs should be submitted during the application process such that there is sufficient opportunity for Governmental Advisory Committee (GAC) review and time to meet the deadlines for community and limited public interest objections.	Subsequent Procedures PDP Working Group	Prerequisite
40	A full impact study to ascertain the impact of the New gTLD Program on the cost and effort required to protect trademarks in the DNS should be repeated at regular intervals to see the evolution over time as the New gTLD Program continues to evolve and new gTLD registrations increase. We would specifically recommend that the next Impact Survey be completed within 18 months after issuance of the CCTRT final report, and that subsequent studies be repeated every 18 to 24 months.	ICANN organization	High

#	Recommendation	To	Prerequisite or Priority Level*
41	A full review of the URS should be carried out and consideration be given to how it should interoperate with the UDRP. However, given the PDP Review of All Rights Protection Mechanisms in All gTLDs, which is currently ongoing, such a review needs to take on board that report when published and indeed may not be necessary if that report is substantial in its findings and if the report fully considers potential modifications. A review of the URS should cover potential modifications inter alia (1) whether there should be a transfer option with the URS rather than only suspension; (2) whether two full systems should continue to operate (namely UDPR and URS in parallel) considering their relative merits; (3) the potential applicability of the URS to all gTLDs and (4) whether the availability of different mechanisms applicable in different gTLDs may be a source of confusion to consumers and rights holders.	RPM PDP Working Group	Prerequisite
42	A review of the Trademark Clearinghouse (TMCH) and its scope should be carried out to provide us with sufficient data to make recommendations and allow an effective policy review. There appears to be considerable discussion and comment on whether the TMCH should be expanded beyond applying to only identical matches and if it should be extended to include "mark+keyword "or common typographical errors of the mark in question. If an extension is considered valuable, then the basis of such extension needs to be clear.	RPM PDP Working Group	Prerequisite
Chapter X. Application and Evaluation Process of the New gTLD Program			
43	Set objectives for applications from the Global South. The Subsequent Procedures Working Group needs to establish clear measurable goals for the Global South in terms of number of applications and even number of delegated strings. This effort should include a definition of the "Global South."	New gTLD Subsequent Procedures Working Group	Prerequisite – objectives must be set
44	Expand and improve outreach into the Global South. Outreach to the Global South requires a more comprehensive program of conference participation, thought leader engagement and traditional media. This outreach should include cost projections and potential business models. Furthermore, it is recommended that the outreach program begin significantly earlier to facilitate internal decision-making by potential applicants. The outreach team should compile a list of likely candidates, starting with the work of AMGlobal, and ensure these candidates are part of the outreach effort.	ICANN organization	Prerequisite

#	Recommendation	To	Prerequisite or Priority Level*
45	Coordinate the pro bono assistance program. Ideally, the pro bono assistance program would be coordinated by the ICANN organization to ensure that communication is successful between volunteers and applicants.	ICANN organization	Prerequisite
46	Revisit the Applicant Financial Support Program. The total cost of applying for a new gTLD string far exceeds the $185K application fee. Beyond efforts to reduce the application fee for all applicants, efforts should be made to further reduce the overall cost of application, including additional subsidies and dedicated support for underserved communities.	New gTLD Subsequent Procedures Working Group	Prerequisite
47	As required by the October 2016 Bylaws, GAC consensus advice to the Board regarding gTLDs should also be clearly enunciated, actionable and accompanied by a rationale, permitting the Board to determine how to apply that advice. ICANN should provide a template to the GAC for advice related to specific TLDs, in order to provide a structure that includes all of these elements. In addition to providing a template, the Applicant Guidebook (AGB) should clarify the process and timelines by which GAC advice is expected for individual TLDs.	Subsequent Procedures PDP Working Group, GAC, ICANN organization	Prerequisite
48	A thorough review of the procedures and objectives for community-based applications should be carried out and improvements made to address and correct the concerns raised before a new gTLD application process is launched. Revisions or adjustments should be clearly reflected in an updated version of the 2012 AGB.	Subsequent Procedures PDP Working Group	Prerequisite
49	The Subsequent Procedures PDP should consider adopting new policies to avoid the potential for inconsistent results in string confusion objections. In particular, the PDP should consider the following possibilities: 1) Determining through the initial string similarity review process that singular and plural versions of the same gTLD string should not be delegated 2) Avoiding disparities in similar disputes by ensuring that all similar cases of plural versus singular strings are examined by the same expert panelist 3) Introducing a post dispute resolution panel review mechanism	Subsequent Procedures PDP Working Group	Prerequisite
50	A thorough review of the results of dispute resolutions on all objections should be carried out prior to the next CCT review	Subsequent Procedures PDP Working Group	Low

III. Background on the Competition, Consumer Trust and Consumer Choice Review

The Competition, Consumer Trust and Consumer Choice Review Team (CCTRT) was convened under the Affirmation of Commitments Section 9.3.[7] [8] The AoC prescribes that "when new gTLDs (whether in ASCII or other language character sets) have been in operation for one year, ICANN will organize a review that will examine the extent to which the introduction or expansion of gTLDs has promoted competition, consumer trust and consumer choice, as well as effectiveness of (a) the application and evaluation process, and (b) safeguards put in place to mitigate issues involved in the introduction or expansion."

The CCTRT was assembled in January 2016 and comprises 17 community representatives and volunteer subject matter experts who represent the diversity of the global Internet stakeholders.[9] Since the Review Team was convened, ICANN has adopted new Bylaws as part of the Internet Assigned Numbers Authority (IANA) stewardship transition that incorporated the AoC provisions into the ICANN Bylaws as "Specific Reviews" under Section 4.6.[10] Similar to the AOC, the Bylaws describe the scope of this review as:

> *"The Review Team for the CCT Review will examine (A) the extent to which the expansion of gTLDs has promoted competition, consumer trust and consumer choice and (B) the effectiveness of the New gTLD Round's application and evaluation process and safeguards put in place to mitigate issues arising from the New gTLD Round."*

Commented [jD2]: Edit from **Brian** on April 26, 2017: US Department of Commerce and ICANN, *Memorandum of Understanding Between the Department of Commerce and the Internet Corporation for Assigned Names and Numbers*, 31 December 1999, https://www.icann.org/resources/unthemed-pages/icann-mou-1998-11-25-en.The Affirmation of Commitments, signed on 30 September 2009 between ICANN and the U.S. Department of Commerce (the "AoC"), calls for periodic review of four key ICANN objectives: (1) ensure that decisions made related to the global technical coordination of the DNS are made in the public interest and are accountable and transparent; (2) preserve the security, stability and resiliency of the DNS; (3) promote competition, consumer trust, and consumer choice in the DNS marketplace and (4) facilitate international participation in DNS technical coordination.
ICANN, Bylaws for Internet Corporation for Assigned Names and Numbers, A California Non-Profit Public Benefit Corporation (October 2016), accessed 20 January 2017, https://www.icann.org/resources/pages/governance/bylaws-en This aspect has now been incorporated to the new ICANN Bylaws, https://www.icann.org/en/system/files/files/adopted-bylaws-27may16-en.pdf.

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[7] US Department of Commerce and ICANN, Memorandum of Understanding Between the Department of Commerce and the Internet Corporation for Assigned Names and Numbers, accessed 19 January 2017, https://www.icann.org/resources/unthemed-pages/icann-mou-1998-11-25-en.The Affirmation of Commitments, signed on 30 September 2009 between ICANN and the U.S. Department of Commerce (the "AoC"), calls for periodic review of four key ICANN objectives: (1) ensure that decisions made related to the global technical coordination of the DNS are made in the public interest and are accountable and transparent; (2) preserve the security, stability and resiliency of the DNS; (3) promote competition, consumer trust, and consumer choice in the DNS marketplace and (4) facilitate international participation in DNS technical coordination.

[8] ICANN, *Bylaws for Internet Corporation for Assigned Names and Numbers, A California Non-Profit Public Benefit Corporation (October 2016),* accessed 20 January 2017, https://www.icann.org/resources/pages/governance/bylaws-en This aspect has now been incorporated to the new ICANN Bylaws, https://www.icann.org/en/system/files/files/adopted-bylaws-27may16-en.pdf.

[9] The composition of the CCTRT can be viewed here: https://community.icann.org/display/CCT/Composition+of+Review+Team

[10] ICANN (1 October 2016), *Bylaws for Internet Corporation for Assigned Names and Numbers, A California Non-Profit Public Benefit Corporation,* accessed 20 January 2017, https://www.icann.org/resources/pages/governance/bylaws-en

The new Bylaws also specify that, for each of its recommendations, the CCT Review Team should indicate whether the recommendation, if accepted by the Board, must be implemented before opening subsequent rounds of new gTLD applications periods. The recommendations contained in this report identify those that should be implemented before the opening of future application periods for new gTLDs.

Producing recommendations that are as data- and fact-driven as possible is a fundamental goal of the review: the CCTRT has devised its report to have findings supported by data received prior to and throughout the review process. A number of initiatives were taken prior to the CCTRT's launch and during deliberations, to inform its work (refer to Appendix D: Terms of Reference for details).

In December 2010, the Board requested advice from the At-Large Advisory Committee (ALAC), Governmental Advisory Committee (GAC),Generic Names Supporting Organization (GNSO), and Country Codes Names Supporting Organization (ccNSO) on establishing the definition, measures and three-year targets for competition, consumer trust and consumer choice in the context of the Domain Name System. This advice was requested to support ICANN's obligations under the AoC to review the extent to which the introduction or expansion of gTLDs has promoted competition, consumer trust and consumer choice.[11]

The ICANN Board formed an Implementation Advisory Group for Competition, Consumer Trust and Consumer Choice (IAG-CCT) in September 2013 to review 70 metrics recommended by a GNSO-ALAC working group in December 2012. The IAG-CCT was tasked to make recommendations to the Review Team based on an evaluation of the feasibility, utility and cost-effectiveness of each of the proposed metrics. In September 2014, the IAG-CCT submitted its final recommendations[12] to the ICANN Board, which adopted them in February 2015.[13] The recommendations included 66 metrics related to competition, consumer trust and consumer choice. The ICANN organization has been continuously gathering and publishing data related to most of these metrics on the ICANN website.[14]

These efforts led ICANN to commission surveys of Internet users and registrants to gauge their sense of trust and choice, and an economic study of gTLD pricing and marketplace competition. Nielsen was

[11] ICANN Board Resolution 2010.12.10.30, "Consumer Choice, Competition and Innovation," (2010), accessed 20 January 2017, https://www.icann.org/resources/board-material/resolutions-2010-12-10-en#6

[12] Implementation Advisory Group for Competition Consumer Trust and Consumer Choice (26 September 2014), *Final Recommendations on Metrics for CCT Review,* accessed 20 January 2017, https://community.icann.org/display/IAG/IAG-CCT+report

[13] ICANN Board Resolution 2015.02.12.07-2015.02.12.09, "Recommendations for the Collection of Metrics for the New gTLD Program to Support the future AoC Review on Competition, Consumer Trust and Consumer Choice," (2012), accessed 20 January 2017, https://www.icann.org/resources/board-material/resolutions-2015-02-12-en#1.e

[14] ICANN, "Competition, Consumer Trust and Consumer Choice (CCT) Metrics Reporting," (2017), accessed 20 January 2017, https://www.icann.org/resources/reviews/cct/metrics

retained to perform the registrant[15] and consumer[16] studies, and the Analysis Group was retained to perform the economic studies[17,] that served as important resources for the Review Team in building its draft recommendations.

The AoC mandates an examination of the effectiveness of the application and evaluation processes used in the 2012 round of gTLD applications, including ICANN's implementation of the policy recommendations made for the New gTLD Program. To help inform the CCTRT, staff compiled and published the Program Implementation Review[18] report to provide staff perspective on the execution of the New gTLD Program, as well as incorporating feedback from stakeholders including applicants, service providers and other community members.

Per its mandate, the Review Team is to assess the effectiveness of safeguards enacted to mitigate abuse. To inform the CCTRT's work, the ICANN organization collaborated with the ICANN community to generate a report on New gTLD Program Safeguards Against DNS Abuse[19] that explores methods for measuring the effectiveness of safeguards to mitigate DNS abuse that were implemented as part of the New gTLD Program, as well as a report on Rights Protection Mechanism Review[20,] focused on key protection mechanisms such as the Trademark Clearinghouse, the Uniform Rapid Suspension System and Post-Delegation Dispute Resolution.

The Review Team was interested in understanding why more firms from the developing world did not apply to the program. To inform this aspect of its work, AMGlobal produced a report on its research and interviews conducted with firms, organizations and other institutions that did not apply for new gTLDs,

Commented [jD3]: Edit from **Brian** on April 26, 2017: Nielsen, Registrant Survey (2015) and Nielsen, Registrant Survey Wave 2 (2016).

Commented [jD4]: Edit from **Brian** on April 26, 2017: Nielsen, Consumer Research (2015) and Nielsen, Consumer Research Wave 2 (2016).

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[15] Nielsen, *ICANN Global Registrant Survey* (September 2015), accessed20 January 2017, https://www.icann.org/news/announcement-2015-09-25-en and Nielsen, *ICANN Global Registrant Survey Wave 2* (August 2016), accessed [20 January 2017], https://www.icann.org/news/announcement-2-2016-09-15-en

[16] Nielsen, *ICANN Global Consumer Research* (April 2015), accessed 20 January 2017, https://www.icann.org/news/announcement-2015-05-29-en and Nielsen, *ICANN Global Consumer Research Wave 2* (June 2016), accessed 20 January 2017, https://www.icann.org/news/announcement-2-2016-06-23-en

[17] Analysis Group, *Phase I Assessment of the Competitive Effects Associated with the New gTLD Program* (September 2015), accessed 20 January 2017, https://www.icann.org/news/announcement-2-2015-09-28-en and Analysis Group, *Phase II Assessment of the Competitive Effects Associated with the New gTLD Program* (October 2016), accessed 20 January 2017, https://www.icann.org/news/announcement-2016-10-11-en

[18] ICANN, *Program Implementation Review* (January 2016), accessed 13 January 2017, https://newgtlds.icann.org/en/reviews/implementation/program-review-29jan16-en.pdf

[19] ICANN Operations and Policy Research, *New gTLD Program Safeguards Against DNS Abuse: Revised Report* (July 2016), accessed 20 January 2017, http://www.icann.org/news/announcement-2016-07-18-en

[20] ICANN (11 September 2015), *Rights Protection Mechanisms Review*, accessed 20 January 2017, https://newgtlds.icann.org/en/reviews/rpm/rpm-review-11sep15-en.pdf

but who may have been considered good candidates for the program because they were similar to entities from the developed world that did apply.[21]

To supplement the existing data, the CCTRT requested additional surveys and studies to further inform its work; see Appendix D: Terms of Reference for details.

[21] AMGlobal Consulting, *New gTLDs and the Global South: Understanding Limited Global South Demand in the Most Recent New gTLD Round and Options Going Forward* (October 2016), accessed 20 January 2017, https://community.icann.org/pages/viewpage.action?pageId=56135383

IV. History of the New gTLD Program[22]

In the 1990s, management of the Domain Name System (DNS) was revised periodically to encourage more competition in the domain name marketplace. However, the number of available gTLDs remained fixed and small. Beginning in 2000, ICANN expanded the available set of gTLDs to encourage more competition in the market for domain names.

History of the Expansion of the DNS Prior to 2000

The DNS was developed in the early 1980s as a means of organizing and easing Internet navigation by establishing unique, easier-to-remember addresses for different locations on the Internet. Initially, eight gTLDs were established, within which eligible entities could register second-level domain names. Three of these gTLDs (.com, .org, and .net) were unrestricted, meaning that anyone could register a second-level domain name within them. Five (.edu, .gov, .arpa, .int, and .mil) were restricted-use, meaning that only particular types of users were allowed to register a second-level domain within them. In addition to gTLDs, two-letter country code TLDs (ccTLDs) were introduced over time, beginning with .us in 1985.

Initially, the task of registering second-level domain names in the various gTLDs fell to SRI International, a not-for-profit research institute operating under a contract with the Department of Defense (DOD). In the early 1990s, the responsibility for registering names for .com, .org, .net, .edu and .gov was transferred to a private corporation, Network Solutions Inc. (NSI), under a contract with the National Science Foundation, which had taken over from DOD as the funding source. NSI operated the registry and acted as the sole registrar for .com, .org and .net.

In the early 1990s, .com replaced .edu as the most-used gTLD as the commercial possibilities of the Internet became apparent following the development of the World Wide Web. As the .com registry operator and its sole registrar, NSI had a monopoly on the registration of second-level domain names in .com. In 1995 NSI began charging $100 to register a .com domain name for a two-year period.

The late 1990s saw a rapid series of steps designed to increase competition. In 1997, the U.S. Government issued a policy directive stating that the management of the DNS should be privatized. In a policy statement issued in 1998, the U.S. Department of Commerce ("Commerce") declared its intent to transfer management of the DNS from the U.S. government to a private corporation. ICANN was established in 1998 as a private, not-for-profit corporation to manage the DNS. A Memorandum of Understanding (MOU) signed by Commerce and ICANN established ICANN's authority to manage the DNS and reiterated Commerce's intent that the management of the DNS would be "based on the

[22] Michael L. Katz, Gregory L. Rosston, and Theresa Sullivan (June 2010), *An Economic Framework for the Analysis of the Expansion of Generic Top-Level Domains*, prepared for ICANN, https://archive.icann.org/en/topics/new-gtlds/economic-analysis-of-new-gtlds-16jun10-en.pdf

principles of stability, competition, bottom-up coordination, and representation[23]." The MOU also described one of ICANN's main responsibilities as "oversight of the policy for determining the circumstances under which new TLDs are added to the root system," including "development of policies for the addition, allocation, and management of gTLDs and the establishment of domain name registries and domain name registrars to host gTLDs." Thus, as described in the Applicant Guidebook (AGB), "one of [ICANN's] key mandates has been to promote competition in the domain name market." [24]

Commented [jD5]: Edit from **Brian** on April 26, 2017: US Department of Commerce and ICANN, Memorandum of Understanding, 31 December 1999.

In late 1998, the National Telecommunications and Information Administration (NTIA), an agency within the U.S. Department of Commerce, required NSI to separate the registry functions from the registrar functions and to facilitate the entry of competitive registrars by establishing a shared registration system that would allow registrars other than NSI to interact with the .com, .org and .net registry databases. This led to the entry of hundreds of registrars, but the set of gTLDs remained fixed at a small number.

Previous gTLD Expansions[25]

Including the most recent in 2012, ICANN has held three rounds of gTLD expansion since its founding. The first began in 2000 as a "proof-of-concept" round.[26] In that round, ICANN announced that it would create a maximum of seven new gTLDs, for which it received approximately 50 applications. After evaluating the applications, ICANN added four unsponsored gTLDs (.biz, .info, .name and .pro) and three sponsored gTLDs (.aero, .coop and .museum). The second round of gTLD expansion began in 2004. In that round, ICANN accepted applications only for sponsored gTLDs but announced that it would not limit the number of new gTLDs and would approve all qualified applications. ICANN received ten applications for nine different sponsored gTLDs and ultimately approved eight of the applications (.asia, .cat, .jobs, .mobi, .post, .tel, .travel and .xxx). Thus, prior to the 2012 New gTLD Program, there were 23 gTLDs.

Background of the 2012 New gTLD Program[27]

In 2005, ICANN's Generic Names Supporting Organization (GNSO) – the main policy-making body for generic top-level domains—initiated a Policy Development Process (PDP) to consider the introduction of new gTLDs into the DNS based on the results of previous rounds conducted in 2000 and 2004. The two-

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[23] US Department of Commerce and ICANN, *Memorandum of Understanding Between the Department of Commerce and the Internet Corporation for Assigned Names and Numbers, accessed 19 January 2017*, https://www.icann.org/resources/unthemed-pages/icann-mou-1998-11-25-en

[24] ICANN, *gTLD Applicant Guidebook* (June 2012), https://newgtlds.icann.org/en/applicants/agb.

[25] Katz et. al (2010), *An Economic Framework*

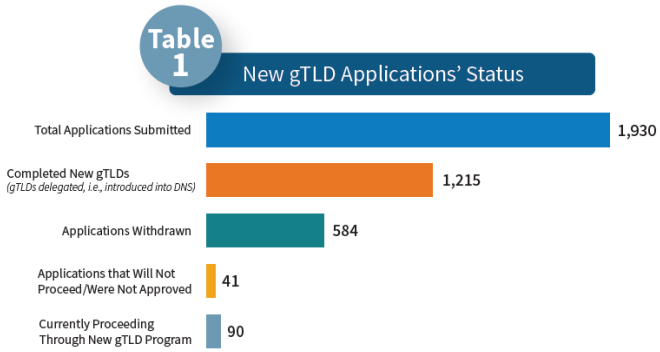
[26] ICANN, "Registry Proof of Concept Reports," accessed 19 January 2017, https://www.icann.org/resources/pages/poc-2012-02-25-en.

[27] ICANN, "New Generic Top-Level Domains: About the Program," accessed 19 January 2017, https://newgtlds.icann.org/en/about/program.

year PDP included detailed and lengthy consultations with the many constituencies of ICANN's global Internet community, including governments, civil society, business and intellectual property stakeholders, and technologists. In 2008, the ICANN Board adopted 19 specific GNSO policy recommendations for implementing new gTLDs, that included elements such as allocation criteria and contractual conditions for operating a gTLD.[28]

After approval of the PDP's recommendations, ICANN undertook an open, inclusive and transparent implementation process to address stakeholder concerns, such as the protection of intellectual property and community interests, consumer protection and DNS stability. This work included public consultations, review and input on multiple draft versions of the Applicant Guidebook. In June 2011, ICANN's Board of Directors approved the Guidebook and authorized the launch of the New gTLD Program. The program's goals included enhancing competition and consumer choice, and enabling the benefits of innovation via the introduction of new gTLDs, including both new ASCII and Internationalized Domain Name (IDN) top-level domains.

The application window opened on 12 January 2012, and ICANN received 1,930 applications for new gTLDs. As reported on ICANN's New gTLD website:[29]



[28] ICANN Generic Names Supporting Organization (8 August 2007), *Final Report: Introduction of New Generic Top-Level Domains*, https://gnso.icann.org/en/issues/new-gtlds/pdp-dec05-fr-parta-08aug07.htm.

[29] ICANN, "New Generic Top-Level Domains: Program Statistics," accessed 19 January 2017, https://newgtlds.icann.org/en/program-status/statistics.

V. Data-Driven Analysis: Recommendations for Additional Data Collection and Analysis

As called for in its terms of reference, the CCT Review Team endeavored to objectify its research, both for purposes of findings and analysis of the effectiveness of recommendations.[30] To that end, the Review Team assembled data that had been collected as a result of the IAG-CCT recommendations, purchased additional data and commissioned the collection of more.[31] While the timeframe for the review, beginning only a year after the start of the New gTLD Program, necessarily limited the conclusions that could be reached and, in some instances, these efforts to conceive data-driven evaluation models were frustrated by abstractions such as Consumer Trust, in many others, the primary challenge was the paucity of data.

Commented [jD6]: Edit from **Brian** on April 26, 2017: Implementation Advisory Group for Competition, Consumer Trust, and Consumer Choice (2014), Final Recommendations.

At the core of any competitive analysis is pricing both in the wholesale and retail markets, and the data available for both markets was insufficient. Price variance not only allows us to measure the impact of increased competition, but also helps to define the market itself. Anecdotal data suggests that the market occupied by the new gTLDs also includes certain "generic" ccTLDs (such as .co), a number of ccTLDs at the regional level and even alternative online identities such as social media accounts and third-level domains. More data on pricing, wholesale, retail and secondary, both global and regional, are necessary to fully understand the interactions of these market participants. Finally, the role of parking (i.e., domains that are not yet in use either because of speculation or preparation) is not fully understood without further study.

When evaluating the effectiveness of Rights Protection Mechanisms (RPMs) and safeguards, far more granular data on individual safeguards, as well as greater transparency on complaints from ICANN's Contract Compliance team is necessary.

A more practical survey of end users would be helpful for both competition analysis, to explore substitution behavior, and for consumer trust. The pair of surveys was designed by the IAG-CCT and the CCTRT, respectively, but would benefit from more objective questions about behavior.

Finally, even the evaluation of the effectiveness of the application and evaluation process would have benefitted from additional data. For example, programs put in place to encourage and facilitate applications from the Global South were not sufficiently tracked to allow for comprehensive evaluation.

As the issue of data has come up in the past and will inevitably come up in the future, the CCTRT would like to make a general recommendation about data collection to ICANN in addition to making suggestions particular to CCT research.

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[30] Competition, Consumer Trust, and Consumer Choice Review Team (2016), *Terms of Reference*, accessed 24 February 2017, https://community.icann.org/pages/viewpage.action?pageId=58727456

[31] Implementation Advisory Group for Competition Consumer Trust and Consumer Choice (26 September 2014), *Final Recommendations on Metrics for CCT Review,* accessed 20 January 2017, https://community.icann.org/display/IAG/IAG-CCT+report

Recommendation 1: Formalize and promote ongoing data collection.

Rationale/related findings: The lack of data has handicapped attempts both internally and externally to evaluate market trends and the success of policy recommendations.

To: ICANN organization

Prerequisite or Priority Level[32] : High

Consensus within team: Yes

Details: ICANN should establish a formal initiative, perhaps including a dedicated data scientist, to facilitate quantitative analysis, by staff, contractors and the community, of the domain name market and, where possible, the outcomes of policy implementation. This department should be directed and empowered to identify and either collect or acquire datasets relevant to the objectives set out in strategic plans, and analysis and recommendations coming from review teams and working groups.

Success Measures: The availability of relevant data for use by the ICANN organization, contractors and the ICANN community for its work in continuous improvement of ICANN operations.

Below are some of the CCT-specific data requests for future Review Teams.

Competition and Consumer Choice

At various points in this report, we identify analyses that we were unable to conduct because we lacked the needed information. Some of these shortcomings can be overcome in the future if ICANN obtains these data directly from industry participants or if ICANN enters into contractual relationships with parties that collect the data. Others will require improved analyses of the behavior of industry participants, especially analyses that enhance our understanding of the way in which registrants substitute among TLDs. This section discusses these issues in somewhat greater detail. In addition, we believe that ICANN can make better use of publicly available data and that it should develop the capability to analyze both proprietary and public data on an ongoing basis.

The most significant data limitation that we faced was the almost total lack of information about the wholesale prices charged by legacy TLDs. Analysis Group requested wholesale price data directly from

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[32] Prerequisite or Priority Level: Per the ICANN Bylaws, the CCT Review Team, indicated whether each recommendation must be implemented prior to the launch of subsequent procedures for new gTLDs. The team agreed that those recommendations which were not categorized as prerequisites would be given a time-bound priority level:
High priority: Must be implemented within 18 months of the issuance of a final report.
Medium priority: Must be implemented with 36 months of the issuance of a final report.
Low priority: Must be implemented prior to the start of the next CCT Review.

both legacy and new registries as part of its study with the understanding that the data would never be provided to ICANN or made public. In addition, Analysis Group provided assurances that the data published in its report would be aggregated and anonymized so as not to compromise confidentiality. Although the Analysis Group obtained some data from most of the new gTLD registries from which it requested it, there were extremely few responses from legacy gTLDs and incomplete data from new gTLDs. We believe that ICANN should acquire this information from all registries on a regular basis and provide assurances that the data would be treated on a confidential basis. The data could then be used for analytic purposes by the ICANN organization and by others that execute non-disclosure agreements.

Very high parking rates are observed for some gTLDs raising questions as to the competitive effect. If prospecting rates are different between new and legacy gTLDs we may be observing something different than competitive behavior and renewal rates will help to determine the impact. We believe that it is important for ICANN to track this information on a regular basis. Although nTLDstats.com provides this information on an ongoing basis for new gTLDs, ICANN has had to enter into a contract with them to obtain similar information for legacy gTLDs. We recommend that ICANN arrange to obtain this information on an ongoing basis in the future.

A third limitation involved our inability to conduct analyses on a regional or country basis. During the course of our work, we learned some of the data that we would need to conduct this analysis had been compiled in connection with the Latin American and Caribbean DNS Marketplace Study and we are attempting to obtain those data in order to conduct country-specific analysis for that set of countries.[33] We recommend that ICANN collect information on regional market shares between relevant ccTLDs and legacy TLDs as well as pricing data for all countries on an ongoing basis in the future. In this regard, it is important to note that the country-specific analysis would be able to assess the extent to which gTLDs and ccTLDs compete. Some of these data may already be collected, for example by CENTR, and we recommend that ICANN explore the possibility of obtaining the needed data from these sources.

Fourth, it appears that ICANN does not currently make use of retail price data that can be obtained directly from public sources such as https://tld-list.com/ and https://namestat.org. We recommend that ICANN develop the capability of analyzing these data on an ongoing basis.

ICANN may also wish to explore the possibility of obtaining data on prices that prevail in secondary market transactions.

Finally, we note that our ability to define relevant markets has been severely handicapped by the lack of information about how registrants make choices among TLDs. Appendix G: Bibliography contains early suggestions for questions for an eventual end user survey.

Consumer Trust/Safeguards

[33] Oxford Information Labs, LACTLD, EURid and InterConnect Communications, *Latin America and Caribbean DNS Marketplace Study* (September 2016), accessed 9 February 2017, https://www.icann.org/en/system/files/files/lac-dns-marketplace-study-22sep16-en.pdf

The Review Team also faced challenges related to its assessment of the extent to which the expansion of gTLDs promoted consumer trust and the effectiveness of safeguards adopted by new TLDs in mitigating certain risks involved in such expansion.

Two surveys were made available that contained data regarding the extent to which consumer end user and registrants trusted new gTLDs. However, the Review Team noted that the surveys did not define consumer trust (and other key terms) and contained few questions that explored the objective behavior of the survey respondents that could serve as a proxy for consumer trust. Moreover, certain responses that identified factors relevant to consumer trust -- such as reputation and familiarity -- were broad concepts that did not lend themselves to providing precise guidance for either future applicants, ICANN, or other community stakeholders. As a result, we would recommend that future Review Teams work with survey experts to conceive more behavioral measures of consumer trust that gather both objective and subjective information, with a goal toward generating more concrete and actionable information.

The Review Team also lacked sufficient data on how effective safeguards adopted by gTLDs were in mitigating certain risks. For example, although many safeguards for new gTLDs aimed at mitigating DNS abuse, little information was available to the Review Team that directly addressed this issue. In response, the Review Team commissioned a study to establish baseline measures of abuse rates in new and legacy gTLDs that will enable further inquiry into the effectiveness of these safeguards. We hope that future Review Teams will build on this study and consider how additional studies may shed further light on assessing the effectiveness of new gTLD safeguards.

An important and related issue is information about the costs of implementing these safeguards. The Review Team lacked data regarding the costs to registries and registrars of implementing the safeguards required under the New gTLD Program. Such data would be useful to future Review Teams who may wish to engage in a cost/benefit analysis.

Another challenge faced by the Review Team was a lack of transparency in the subject matter of complaints submitted to ICANN compliance. Although ICANN makes available information about the general subject matters of the complaints that it receives, such as WHOIS accuracy or DNS abuse, ICANN does not disclose more specific information about the subject matter of these complaints. For example, regarding complaints about registrars, ICANN compliance reports do not disclose what type of WHOIS accuracy is being complained about (address, email, or identity verification). Similarly, ICANN compliance reports do not identify what types of DNS abuse are the subjects of complaints. Such information would permit Review Teams to identify more precisely which subject areas generate the most complaints and would enable a better assessment of the effectiveness of current safeguards.

VI. Competition

In announcing the opening of the latest round of the introduction of new gTLDs, ICANN stated that:

> *The program's goals include enhancing competition and consumer choice, and enabling the benefits of innovation via the introduction of new gTLDs, including both new ASCII and internationalized domain name (IDN) top-level domains.*[34]

Commented [jD7]: Edit from **Brian** on April 26, 2017: ICANN, "New Generic Top-Level Domains: About the Program".

The 2009 Affirmation of Commitments and the 2016 ICANN Bylaws call for ICANN to conduct a review of the impact of the New gTLD Program on competition, consumer choice, and consumer trust. This section describes our analysis of the effects of the recent new gTLD round on competition. Before reporting the findings, however, it is important to emphasize that there were significant limitations in conducting the analysis. First, it is still "early innings" and the full effects of the New gTLD Program are unlikely to be felt for some time. TLDs continue to be introduced and many new gTLDs are still in the early stages of their development. Together, these factors make it difficult to reach definitive conclusions about the program's impact at this time. Therefore, this should be regarded as an interim report and it is possible that the DNS marketplace will look quite different in the future than it does at present.

Second, our analysis has been hampered significantly by the lack of relevant data including, but not limited to, information about the wholesale prices charged for gTLD registrations. Consequently, among our conclusions are recommendations concerning additional information that ICANN should collect on an ongoing basis in order to improve its ability to carry out future analyses.[35]

Finally, although there is likely to be substitution by registrants both between types of TLDs, for example between ccTLDs and gTLDs, and between TLDs of a given type, for example, between .com and .xyz, we do not currently have enough information to permit us to define markets definitively for the purpose of analyzing competition. For that reason, the Review Team has analyzed competition in a number of

[34] ICANN, "New Generic Top-Level Domains: About the Program," accessed 19 January 2017, https://newgtlds.icann.org/en/about/program.

[35] Katz et. al (2010), *An Economic Framework*. In paragraph 118 the authors make a similar point: "…in order to derive the greatest informational benefits from the next round of gTLD introductions, ICANN should adopt practices that will facilitate the assessment of the net benefits from the initial rollout of additional gTLDs. Specifically, ICANN should require registries, registrars, and domain names registrants to provide information sufficient to allow the estimation of the costs and benefits of new gTLDs."

alternative markets including all gTLDs, all gTLDs plus "open" ccTLDs,[36] and all TLDs. [37] The hope is that future analyses will be better able to define the relevant markets in which gTLDs compete. To that end, a draft of a registrant survey that ICANN could undertake that would improve our understanding of registrant behavior, and thus permit relevant markets to be defined more precisely, is included in a later section of this report.

Commented [jD8]: Edit from **Brian** on April 26, 2017: There is also some indication that alternative online identities, including social media and third level domains, may be substitutes for registrations in TLDs. For example, Nielsen's Wave 2 Registrant Survey, conducted on behalf of ICANN for this report, found that these alternatives are often easier to use and may affect decisions on whether to register a domain name. See Nielsen, Consumer Research Wave 2 (2016).

Economic Framework for Competition Analysis

In order to analyze the competitive effects of the entry of new gTLDs, the Review Team first attempted to define the relevant markets in which participants in the DNS operate. This required an understanding of, among other factors, the extent to which new TLDs serve as substitutes for the legacy domains, substitutions among new TLDs, and the geographic dimension of the market in which TLDs operate. Because we did not have sufficient information to define markets definitively, we conducted our analysis using a number of alternative market definitions. After defining markets, we then calculated the market shares of TLD operators, registrars, and back-end providers, and calculated measures of market concentration based on those shares. In order to assess the likely effect of new gTLD entry on competition in the DNS marketplace, we compared these measures in late 2013, just before the introduction of the new gTLDs with their levels in March 2016, a date at which the new gTLDs had been in operation for some time. We intend to update these results in our final report.

Penetration by New gTLDs in the Domain Name System

The New gTLD Program has not only vastly increased the number of registries from which registrants can choose – an increase of more than 60-fold -- but it has also vastly increased their variety. This increase in non-price competition among gTLDs is reflected in domains in new languages – e.g., .immobilien), new character sets – e.g., .网址 (xn--ses554g) and コム (xn--tckwe), new geographic identities – e.g., .london and .tokyo, and new specialized domains – e.g., .racing, .realtor, and .pub. The Review Team found that as of March 2016 new gTLDs had acquired approximately 50% of the *increase*

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[36] Ben Edelman, "Registrations in Open ccTLDs," last modified 22 July 2002, https://cyber.harvard.edu/archived_content/people/edelman/open-cctlds/. Edelman notes: "Seeing the growth of COM, NET, and ORG, certain country-code top-level domains (ccTLDs) have decided to open their name spaces to all interested registrants, regardless of country. These domains are often referred to as 'open ccTLDs' as distinguished from those 'closed' ccTLDs that limit restriction to citizens or firms of their respective countries."

[37] There is also some indication that alternative online identities, including social media and third level domains, may be substitutes for registrations in TLDs. For example, Nielsen's Wave 2 Registrant Survey, conducted on behalf of ICANN for this report, found that these alternatives are often easier to use and may affect decisions on whether to register a domain name. See Nielsen, *ICANN Global Consumer Research Wave 2* (June 2016), accessed 27 January 2017, https://www.icann.org/news/announcement-2-2016-06-23-en

in the number of registrations in all gTLDs, 32% of the *increase* in the number of registrations in all TLDs, gTLDs and ccTLDs, and about 38% of the *increase* in the number of registrations in all gTLDs and all "open" ccTLDs, since the introduction of new gTLDs began in October 2013. The Review Team also found that, as of March 2016, new gTLDs accounted for about 9% of the *total* number of registrations in all gTLDs, about 5% of the *total* number of registrations in all TLDs, and about 7% of the *total* number of registrants in all gTLDs and "open" ccTLDs.[38] Table 2 reports these results: [39]

Table 2 New gTLD Penetration as of March 2016[40]

Marketplace	Percentage of New gTLDs Registration Relative to Marketplace Registration
Legacy TLDs and new gTLDs	9%
Legacy TLDs, new gTLDs and all ccTLDs	5%
Legacy TLDs, new gTLDs and open ccTLDs	7.4%
New gTLDs and increase in legacy TLD registrations since the beginning of the New gTLD Program	50%
New gTLDs and increase in legacy TLDs and all ccTLDs since the beginning of the New gTLD Program	32.1%
New gTLDs and increase in legacy TLDs and "open" ccTLDs since the beginning of the New gTLD Program	37.8%

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[38] Google, "International Targeting," accessed 19 January 2017, https://support.google.com/webmasters/answer/62399?hl=en is the source of the list of "open" ccTLDs, which Google refers to as "generic" TLDs.

[39] Since the Review Team's primary focus is on gTLDs that are, or will be, generally available for registration by members of the public, the analysis excludes gTLDs that are subject to Specification 13 of the base registry agreement and/or are exempt from the "Registry Operator Code of Conduct" (ROCC). For this reason, the Review Team requested that Analysis Group exclude ROCC-exempt as well as "Brand" TLDs subject to Specification 13 from the analysis. For details on Specification 13 and a list of "Brand" TLDs, see ICANN, "Applications to Qualify for Specification 13 of the Registry Agreement," accessed 20 January 2017, https://newgtlds.icann.org/en/applicants/agb/base-agreement-contracting/specification-13-applications. For details on ROCC-exempt TLDs, see ICANN, "Registry Operatior Code of Conduct Exemption Requests," accessed 20 January 2017, https://newgtlds.icann.org/en/applicants/agb/base-agreement-contracting/ccer

[40] These and other calculations in this Section were performed by Analysis Group at the request of the Review Team. Data for the calculations were drawn from ICANN's "Monthly Registry Reports," available

The Review Team plans to update these calculations, as well as other calculations described below, in its final report using the same data sources used here. In the interim, however, the Review Team can report findings from the Council of European National Top-Level Domain Registries (CENTR) *Global TLD Stat Reports*. A quantitative comparison of their Q1 2014 and Q4 2016 reports shows that new gTLDs have added approximately 22.2 million registrations since their introduction.[41] This accounts for about 58% of the *increase* in the number of registrations in gTLDs and approximately 43% of the *increase* in the number of registrations in all TLDs over this period.[42] According to these data, registrations in new gTLDs currently account for about 12% of registrations in all gTLDs and about 7% of registrations in all TLDs. These data, which are for a point in time about nine months later than those reported above, indicate somewhat greater new gTLD penetration.

A question that naturally arises is how to interpret the observed share of registrations currently captured by new gTLDs.[43] There are at least three reasons why one might expect that share initially to be smaller than the level that it will eventually reach. First, there are costs to registrants of switching from a legacy to a new gTLD that impart inertia to the process. These costs can be fairly mundane, such as the costs of repainting trucks or issuing new business cards, but they can be significant, for example, the costs of assuring that customers and others are made aware of the change and these costs may well exceed any direct costs related to the registration of a domain name. Second, there are what might be called "network" effects. Here, a potential registrant might be reluctant to register in a new domain because the domain has a small subscriber base and thus users are generally unaware of its existence. Although a "bandwagon effect" – where a new gTLD's increased popularity may motivate more users to register names after it has reached a given size – is unlikely to occur during the early part of its operations.[44] Third, a registrant might wait for the expiration of its registration term with a legacy gTLD

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at https://www.icann.org/resources/pages/registry-reports. Registration data for gTLDs were obtained from October 2013 and March 2016 reports, and employed December 2013 registration data for ccTLDs because they were not available for October 2013. All calculations were based on the total number of registrations as of March 2016 with the exception of the change in Legacy TLD and ccTLD registrations since the entry of new gTLDs in October 2013. For the ccTLD
registration data, December 2013 data were employed as a proxy for October 2013, the entry month of the first new gTLDs, since these data were not available until December 2013. December 2013 registration data were available for 96 "not open" ccTLDs and six open ccTLDs.
Registration data for ccTLDs were based on Zooknic map data. Where Zooknic data were not available, ccTLD registration data were based on Nominet data as of March 2016. Registration data for ccTLDs at the beginning of the New gTLD Program were based on Nominet data as of December 2013.

[41] CENTR (2016), *DomainWire Global TLD Stat Report*: *Q3 2016 (Edition 17)*, accessed 19 January 2017, https://www.centr.org/statistics-centr/quarterly-reports.html and CENTR (2014), *DomainWire Global TLD Stat Report*: *Q1 2014 (Edition 7)*, accessed 19 January 2017, https://www.centr.org/statistics-centr/quarterly-reports.html

[42] Ibid. Calculations made by the Review Team using data from these reports.

[43] Below, we describe a registrant survey that ICANN might undertake in order to analyze registrant behavior more precisely.

[44] Michael L. Katz and Carl Shapiro, "Systems Competition and Network Effects," *The Journal of Economic Perspectives* 8(2), (1994): 93-115, http://www.jstor.org/stable/2138538?origin=JSTOR-pdf&seq=1#page_scan_tab_contents. Katz and Shapiro discuss network effects, where the value of a

before switching to a new gTLD or, at least for a time, register in a new gTLD while maintaining its registration in a legacy domain. Given the low cost of renewal and the high likelihood of remnant links and traffic, there may be very little incentive to drop an old domain registration immediately. Future surveys of gTLD registrants may provide evidence of this type of behavior.

Together, these factors suggest that new gTLDs are unlikely to reach their full potential immediately. In fact, a study performed by KPMG for ICANN found that the new gTLDs that had been introduced after 2001 had, on average, reached 40% of their "most recently observed peak registration" at the end of 12 months of operation, 60% of the peak at the end of 24 months of operation, and 70% of the peak at the end of 36 months of operation.[45] For these reasons, the share of registrations currently captured by the new gTLDs likely understates the level that it will eventually reach.[46]

It is important to note that the share of registrations accounted for by new gTLDs depends both on their share of the increase in the number of registrations and on the rate at which the total number of all registrations increased over the period.[47] For example, given the approximately 50% share of the increase in gTLD registrations accounted for by new gTLDs, their share of total gTLD registrations would have been approximately 25% if the number of gTLD registrations had doubled since October 2013. In fact, the rate of increase was 21.9%.[48] Interestingly, this rate of increase is greater than the rates observed before the introduction of the new gTLDs.[49]

Commented [jD9]: Edit from **Brian** on April 26, 2017: Analysis Group, Phase I Assessment (2015), p. 33, Fig. 8.

It is also possible to use these results to project the share of total registrations that would be captured in the future by the new gTLDs *if* the rate of increase in the total remains unchanged at about 22% every 2.5 years and *if* the new gTLDs continue to capture about 50% of the increase. Under these assumptions, the share captured by the new gTLDs would be approximately 16% after 5 years and approximately 27% after 10 years.

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product to a user depends not only on its intrinsic characteristics but also on the number of other users of that product. See also: H. Liebenstein, "Bandwagon, Snob, and Veblen Effects in the Theory of Consumers' Demand," *Quarterly Journal of Economics* 64(2), (1950), 183-207, http://qje.oxfordjournals.org/content/64/2/183.short. Liebenstein calls this type of behavior a "bandwagon effect," which reflects "the desire of people to wear, buy, do, consume, and behave like their fellows…" (p. 184).

[45] KPMG, *Benchmarking of Registry Operations* (February 2010), accessed 19 January 2017, https://www.icann.org/resources/pages/benchmarking-2010-02-15-en, p. 17.

[46] A possible offsetting factor that we discuss below is the fact that a significant percentage of registrations in new gTLDs are currently "parked" and therefore may not be renewed when they expire.

[47] Note that the increase in the number of registrations equal new registrations minus registrations that are not renewed.

[48] Over the same period, the rate of increase of registrations in all TLDs was 18.5% and the rate of increase of registrations in gTLDs and "open" ccTLDs combined was about 24.3%. This suggests that the number of registrations in gTLDs grew faster than that of all ccTLDs but slower than that of "open" ccTLDs.

[49] Analysis Group, *Phase I Assessment of the Competitive Effects Associated with the New gTLD Program* (September 2015), https://www.icann.org/news/announcement-2-2015-09-28-en, p. 33, Fig. 8.

The Effect of Registration Parking on Measured New gTLD Penetration

A significant proportion of the registrations in new gTLDs are "parked." Although definitions of parking vary, the general idea is that parked domains are not currently being used as identifiers for Internet resources.[50] Examples of behaviors that could be considered parking include:

- The domain name does not resolve.
- The domain name resolves, but attempts to connect via HTTP return an error message.
- HTTP connections are successful, but the result is a page that displays advertisements, offers the domain for sale or both. In a small number of cases, these pages may also be used as a vector to distribute malware.
- The page that is returned is empty or otherwise indicates that the registrant is not providing any content.
- The page that is returned is a template provided by the registry with no customization offered by the registrant.
- The domain was registered by an affiliate of the registry operator and uses a standard template with no unique content.
- The domain redirects to another domain in a different TLD.

nTLDStats reports that, by one measure, about 63% of the domains in new gTLDs are currently parked[51] and, using a different measure, *Latin American and Caribbean DNS Marketplace Study* (LAC Study) reports that "across the entire region, 78% of the gTLD domain names are active, and 22% are not in use (either timing out, or no active services)." [52] If the parking rates of new gTLDs are higher than those of legacy gTLDs, and if parked domains have lower average renewal rates, estimates of future penetration by new gTLDs based on their current registrations may be too high. We intend to conduct our own analysis of this issue and to report the results in our final report.[53]

Commented [jD10]: Edit from **Brian** on April 26, 2017: ICANN (2016), Latin American and Caribbean DNS Marketplace Study, p. 107.

The Structure of the TLD Industry

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[50] Der et al., "From .academy to .zone: An Analysis of the New gTLD Land Rush" (paper presented at the proceedings of the 2015 ACM Conference on Internet Measurement, Tokyo, Japan, 28–30 October 2015), p. 387. The authors ascribe parking to: (1) speculation in order to sell the domain later at a profit; (2) plans to develop the domain at a later date or (3) unsuccessful development.

[51] nTLDStats, "Parking in New gTLDs Overview," accessed 8 January 2017, https://ntldstats.com/parking/tld

[52] ICANN (2016), *Latin American and Caribbean DNS Marketplace Study*, accessed 20 January 2017, https://www.icann.org/en/system/files/files/lac-dns-marketplace-study-22sep16-en.pdf , p. 107.

[53] We take no position about the legitimacy of parking behavior, observing only that taking differences in parking rates among TLDs into account in calculating market shares may affect the measures of concentration that we report.

Registrar Services

One factor that has facilitated the entry of new gTLDs is the availability of important "inputs," specifically registrar and back-end services, that can be acquired through market transactions rather than be "produced" internally.[54] This has the effect of reducing the minimum viable scale – "the smallest scale of output at which an entrant would expect to cover its complete entry and operating costs at current levels of prices"[55] – of gTLDs.

According to ICANN, "An individual or legal entity wishing to register a domain name under a generic top-level domain ("gTLD") … may do so by using an ICANN-accredited registrar…. Any entity that wants to offer domain name registration services under gTLDs with a direct access to the gTLD registries is required to obtain an accreditation from ICANN. To that end, the interested entity must apply for accreditation and demonstrate that it meets all the technical, operational and financial criteria necessary to qualify as a registrar business."[56] At the end of August 2016, 2,084 registrars operated under the 2013 Registrar Accreditation Agreement, and 51 operated under the 2009 Registrar Accreditation Agreement.[57] Only registrars that operate under the 2013 Registrar Accreditation Agreement can register domain names in the new gTLDs.

Three hundred thirty-four (334) registrars currently register domain names in new gTLDs and a significant number of new gTLDs are represented by a relatively large number of registrars.[58] The

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[54] Of course, this does not mean that registries should be prevented from vertically integrating into either back-end or registrar functions, especially as doing so is unlikely to result in foreclosing other registries from obtaining needed services from third parties.

[55] Robert D. Willig, "Merger Analysis, Industrial Organization Theory, and Merger Guidelines," in *Brookings Papers on Economic Activity (Microeconomics),* eds. M.N. Bailey and C. Winston, 1991, p. 310. See also US Department of Justice and the Federal Trade Commission (2010), *Horizontal Merger Guidelines*, https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf, section 3.3.

[56] ICANN, "Information for Registrars and Registrants," accessed 20 January 2017, https://www.icann.org/resources/pages/registrars-0d-2012-02-25-en

[57] ICANN, "2013 Registrar Accreditation Agreement," accessed 20 January 2017, https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en. ICANN, "[2009] Registrar Accreditation Agreement," accessed 20 January 2017, https://www.icann.org/resources/pages/ra-agreement-2009-05-21-en

[58] These registrars report active registrations in new gTLDs or were included in the March 2016 ICANN Monthly Transaction Reports of new gTLDs, despite having zero active registrations in those domains. The list of registrars was obtained from: iana.org, "Registrar IDs," accessed 20 January 2017, http://www.iana.org/assignments/registrar-ids/registrar-ids.xhtml (brand and ROCC-exempt TLDs excluded from Review Team analysis). As a point of reference, 2042 registrars provide registrations for the legacy gTLDs.

following table reports the distribution of new gTLDs as measured by the number of registrars that register names in their domains:

Table 3 Number of Registrars Registering Each New gTLD as of March 2016[59]

Number of Registrars	New gTLD Count	% of New gTLDs
Fewer than 10	31	6%
11–20	26	5%
21–30	18	4%
31–40	39	8%
41–50	24	5%
51–75	49	10%
More than 75	296	61%

Note that more than three-fifths of new gTLDs have their names offered by more than 75 registrars, more than 70% have their names offered by more than 50 registrars, and 88% have their names offered by more than 20 registrars.[60]

Commented [jD11]: Edit from **Brian** on April 26, 2017: As a point of reference, of the five ccTLDs in the Latin American and Caribbean region that do not employ a direct registration model in which "domains are acquired directly from the registry's platform and/or website," the number of registrars employed were 17, 19, 80, 92, and 200, respectively. See ICANN (2016), Latin American and Caribbean DNS Marketplace Study, p. 50. Although at least some of these ccTLDs have apparently been able to attract the interest of a significant number of registrars, the report notes that "one of the challenges that many ccTLDs in the region face once they have decided to implement the registry-registrar model is more [sic] how to attract the larger international registrars to their business…." (Ibid. p. 51). This suggests that the availability of registrars to registries may differ across regions, but further research is needed to assess this issue.

[59] Registrar and registration data for new and legacy gTLDs data were drawn from ICANN's "Monthly Registry Reports," available at https:// www.icann.org/resources/pages/registry-reports. ICANN-accredited registrars were identified based on registrars listed at: iana.org, "Registrar IDs," accessed 20 January 2017, http://www.iana.org/assignments/registrar-ids/registrar-ids.xhtml.
Only new gTLDs and ICANN-accredited registrars were included in the analysis and brand and ROCC-exempt registries were excluded.

[60] As a point of reference, of the five ccTLDs in the Latin American and Caribbean region that do not employ a direct registration model in which "domains are acquired directly from the registry's platform and/or website," the number of registrars employed were 17, 19, 80, 92, and 200, respectively. See *LAC DNS Marketplace Study* (2016), p. 50. Although at least some of these ccTLDs have apparently been able to attract the interest of a significant number of registrars, the report notes that "one of the challenges that many ccTLDs in the region face once they have decided to implement the registry-registrar model is more [sic] how to attract the larger international registrars to their business…." (Ibid. p. 51). This suggests that the availability of registrars to registries may differ across regions, but further research is needed to assess this issue.

Not only is it common for TLDs to be represented by multiple registrars, it is also usually the case that registrars represent multiple TLDs. The following table reports the number of new gTLDs that are represented by each of the top 20 registrars, which collectively have registered almost 85% of all domains that have been registered in the new gTLDs. The mean number of new gTLDs that are represented by these registrars is 189, 15 have registered domains in more than 50 new gTLDs, and 7 have registered domains in well over 300 new gTLDs.[61]

Table 4 Number of New gTLDs Represented by Top 20 Registrars by Registration Volume[62]

Registrar	Rank	% Of New gTLDs	# Of New gTLDs
Chengdu West Dimension Digital Technology Co., Ltd. (www.west.cn)	1	17.90	153
Alibaba Cloud Computing Ltd.	2	10.99	55
AlpNames Ltd.	3	10.36	285
Namecheap, Inc.	4	7.16	116
Uniregistrar Corp.	5	6.94	365
GMO Internet, Inc.	6	5.27	147
GoDaddy Operating Company, LLC	7	5.21	380
PDR Ltd.	8	4.50	374
eName Technology Co. Ltd.	9	3.88	4
West263 International, Limited	10	2.26	38
eNom, Inc. (Rightside Registry)	11	1.53	403
Tucows.com Inc.	12	1.41	391
Todaynic.com Inc.	13	1.23	70
1&1 Internet SE (United Internet AG)	14	1.14	384
Knet Registrar Co. Ltd.	15	0.96	1
Xiamen Nawang Technology Co. Ltd.	16	0.89	77
EJEE Group Holdings Limited	17	0.75	33
Jiangsu Bangning Science & Technology Co. Ltd.	18	0.71	32
OVH	19	0.70	392
TLD Registrar Solutions	20	0.65	73
Total		84.44	3,773

Back-End Registry Operators

ICANN defines a back-end registry operator as "an organization contracted by a registry to run one or more of the Critical Functions of a gTLD registry."[63] The Critical Functions are:

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[61] The mean is 208 if eName Technology, which represents only four registries, and Knet Registrar, which represents a single registry, are eliminated from the calculation.
[62] nTLDStats, "New gTLD Summary," accessed 1 December 2016,https://ntldstats.com/
[63] ICANN, "Registry Transition Processes," accesed 20 January 2017, https://www.icann.org/resources/pages/transition-processes-2013-04-22-en.

- DNS resolution
- DNSSEC properly signed zone (if DNSSEC is offered by the registry)
- Shared Registration System (SRS), usually by means of the Extensible Provisioning Protocol (EPP)
- Registration Data Directory Services (RDDS), e.g., WHOIS provided over both port 43 and through a web-based service.
- Registry Data Escrow

Back-end providers may also offer additional services such as billing, reporting, account management tools, and other technical services related to the TLD's registration database. Although there are many fewer back-end providers than there are registrars, six different back-end providers each provide service to new gTLD registries that collectively have more than one million registrations.

Of the 944 new gTLDs that had begun operation as of 6 May 2016, 495 (52%) were using back-end providers that were located in their respective jurisdictions and 627 (66%) were using back-end providers located in their respective ICANN regions.[64] Thus, although well over half of all new gTLDs employed back-end providers that were located in relatively close proximity, a significant number did not. This suggests that back-end providers at more distant locations can nonetheless provide service to a registry.

We also compiled data, for each of the six largest back-end providers as measured by the number of registrations in the gTLDs that they serve, on the size distribution of the gTLDs that they serve. The following Table 5 reports the results of this analysis:

[64] "ICANN Geographic Regions," accessed 20 January 2017, https://meetings.icann.org/en/regions and Eleeza Agopian to CCT-Review mailing list, "Ry-RSP geographic location comparison," (19 May 2016), http://mm.icann.org/pipermail/cct-review/2016-May/000461.html. In Africa, three gTLDs (out of a total of 10) are using back-end providers in their respective jurisdictions and these three are therefore also using back-end providers in their regions; in Latin America and the Caribbean, five gTLDs (out of a total of 17) are using back-end providers in their respective jurisdictions with one additional gTLD using a back-end provider in the region; in Asia Pacific, 81 gTLDs (out of a total of 163) are using back-end providers in their respective jurisdictions and a total of 102 are using back-end providers in their regions, in North America, 357 gTLDs (out of a total of 441) are using back-end providers in their respective jurisdictions and 409 are using back-end providers in their regions, and in Europe: 49 gTLDs (out of a total of 352) are using back-end providers in their respective jurisdictions and 107 are using back-end providers in in their regions.

Table 5 RSPs Servicing the Most New gTLD Registrations[65]

	1 – 2,500	2,501 – 5,000	5,001 – 10,000	10,001 – 50,000	50,001 – 100,000	100,001 – 250,000	250,001 – 500,000	500,001 – 1 Million	> 1 Million
CentralNic	21	1	3	6	1	3	2	0	1
ZDNS	9	1	1	2	0	0	2	0	1
Neustar, Inc.	184	5	3	5	6	4	2	1	1
Rightside Registry	38	60	70	56	8	0	0	0	0
Uniregistrar Corp.	8	1	2	11	3	0	2	0	0
Afilias Limited	152	7	4	13	0	1	2	0	0

There are several observations that can be made about these results. First, about 94% of the new gTLDs that obtain back-end services from one of these providers have fewer than 50,000 registrants. Second, three of these back-end providers, Rightside, Neustar, and Afilias, collectively serve about 90% of the new gTLDs with fewer than 50,000 registrants. Third, whereas neither Rightside nor Afilias serves any new gTLDs with more than 500,000 registrants and, indeed, none of the new gTLDs that are served by Rightside has more than 100,000 registrants, three of these back-end providers, Neustar, CentralNic, and ZDNS, together serve all of the four new gTLDs with more than 500,000 registrants.

It is also important to note that the incremental cost incurred by a back-end operator to serve a registry operator varies with the number of domains served by the registry[66] and that back-end providers employ a number of pricing models that take these cost differences into account. For example, some charge registries a fixed fee per registered domain, others charge a per-domain fee that varies with the number of domains in the registry, and still others provide service in return for a share of registry revenues, among other models. As a result, small TLDs tend to pay lower total prices to back-end operators than do large ones.

Size Distribution of gTLDs

Another aspect of the structure of the TLD industry is the wide variation in the sizes of different gTLDs. The table below reports the size distribution of new gTLDs, where size is measured by number of registrants. In reviewing the data in the table, it is important to recognize that some new gTLDs have only recently become available for registrations by the public and others may still not be available.

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[65] Calculations performed by Analysis Group at the request of the Review Team. See Footnote 40 above for a description of the calculation

[66] This also varies with the registry's policies. For example, the incremental cost incurred by a back-end operator to serve a gTLD that does non- standard manual vetting is higher than the incremental cost of serving one that does not.

We find that almost three-quarters of the new gTLDs that we have analyzed currently have fewer than 10,000 registrants and more than 90% have fewer than 50,000 registrants.[67] This raises the question of whether these gTLDs will be viable in the long run. There are, at least, the following five possibilities for "small" gTLDs: (1) they may succeed economically despite their size by serving niche markets, for example small geographic areas or specialized products and services, and may be viable even if they do serve large numbers of registrants because their registrants are willing to pay relatively high prices; (2) they may grow over time and eventually achieve economic viability; (3) they may change their target

Commented [jD12]: Edit from **Brian** on April 26, 2017: The ICANN (2016), Latin American and Caribbean DNS Marketplace Study, p. 91 refers to "the typical long tail seen in domain names worldwide…"

[67] The *LAC DNS Marketplace Study* (2016), p. 91 refers to "the typical long tail seen in domain names worldwide…"

markets;[68] (4) they may be acquired by larger operators that achieve economic viability by owning several TLDs[69] and (5) they may eventually exit the market.[70]

Table 6 Size Distribution of New gTLDs[71]

Table 7 Small (Under 20,000 Registrations) Legacy gTLDs Still in Operation[72]

TLD	Number of Domains (August 2016)
.aero	10,170
.coop	8,811
.museum	465
.post	419
.travel	18,103

[68] For example, .whoswho recently eliminated its requirement that registrants show that their names had appeared in a print Who's Who book. See Kevin Murphy, "Relaunch and slashed prices for .whoswho after terrible sales," *Domain Incite*, 1 September 2017, accessed 20 January 2017, http://domainincite.com/20930-relaunch-and-slashed-prices-for-whoswho-after-terrible-sales

[69] For examples of such acquisitions see: ICANN (2015), *Assignment Transfer and Assumption of the top-level domain .promo registry agreement,* accessed 20 January 2017, https://www.icann.org/sites/default/files/tlds/promo/promo-assign-pdf-14dec15-en.pdf; ICANN (2015), *Assignment and Assumption Agreement [of .hiv by Uniregistry Corp],* accessed 20 January 2017, https://www.icann.org/sites/default/files/tlds/hiv/hiv-assign-pdf-20nov15-en.pdf; ICANN (2015), *Assignment and Assumption Agreement [of .reise by Foggy Way LLC (Donuts)]: Dot-REISE Registry Agreement*, accessed 20 January 2017, https://www.icann.org/sites/default/files/tlds/reise/reise-assign-pdf-04may15-en.pdf. Note, however, that most acquisitions that have occurred to date involved transfers from one holder of a large number of domains to another, for example the transfer of 24 domains from Donuts to Rightside (UnitedTLDHoldco). See Kevin Murphy, "You might be surprised how many new gTLDs have changed hands already," *Domain Incite*, 1 July 2015, accessed 20 January 2017, http://domainincite.com/18849-you-might-be-surprised-how-many-new-gtlds-have-changed-hands-already.

[70] To date, .doosan, a brand gTLD, is the only new gTLD that was delegated and subsequently exited the market. See ICANN (3 April 2014), ".doosan Registry Agreement - Terminated," accessed 20 January 2017, https://www.icann.org/resources/agreement/doosan-2014-04-03-en

[71] Calculations performed by Analysis Group at the request of the Review Team. See Footnote 40 above for a description of the calculation method.

At the other end of the distribution are the new gTLDs in which the largest numbers of domains have been registered. As the following Table shows, about 55% of the domains that have been registered in new gTLDs have been registered in the 5 largest new gTLDs, about 65% have been registered in the 10 largest, and about 76% have been registered in the 20 largest.[73] Thus, although a very large number of gTLDs have entered in recent years, a relatively small number account for a very large proportion of the domains that have been registered.

[72] ICANN, "Monthly Registry Reports," accessed 20 January 2017, https://www.icann.org/resources/pages/registry-reports/#a. Note that, for contractual reasons, data from these monthly reports are withheld from public view until three months after the end of the month to which the report relates.

[73] nTLDStats, "New gTLD Overview," accessed 1 December 2016, https://ntldstats.com/tld. According to nTLDStats, 26 new gTLDs currently have more than 100,000 registered domains, 53 have more than 50,000 registered domains, and 169 have more than 10,000 registered domains.

Table 8 Percentage of gTLD Registrations in Top 20 New gTLDs[74]

New gTLD	Rank	% of New gTLD Registrations	% of New gTLD Registrations in Top 5, 10, and 20 New gTLDs
.xyz	1	24.91	
.top	2	17.62	
.win	3	4.84	
.wang	4	3.90	
.club	5	3.27	Top 5 = 54.4%
.bid	6	2.18	
.site	7	2.09	
.loan	8	2.05	
.vip	9	1.97	
.online	10	1.94	Top 10 = 64.8%
.link	11	1.41	
.xin	12	1.26	
.ren	13	1.20	
.red	14	1.20	
.gdn	15	1.14	
.tech	16	1.06	
.网址 (xn--ses554g)	17	0.99	
.click	18	0.86	
.science	19	0.84	
.website	20	0.77	Top 20 = 75.5%

Effect of New gTLD Entry on Industry Concentration

Above, we described our analysis of the extent to which new gTLDs together have captured a share of overall TLD registrations. In this section, we analyze whether, and the extent to which, the entry of new gTLDs has affected concentration among registry operators, registrars and back-end providers using three standard measures of concentration: the 4-firm concentration ratio (the share of registrants served by the four largest firms, the 8-firm concentration ratio (the share of registrants served by the eight largest firms), and the Herfindahl-Hirschman Index (HHI) – the sum of the squared shares of each firm.[75] In doing so, we are implicitly defining the markets in which registries, registrars and back-end providers compete. Market definition, which is a central component of all antitrust analyses, and which has both product and geographic dimensions, is an attempt to identify the suppliers among which competition determines prices and other indicia of market performance.[76]

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[74] Ibid.

[75] The HHI reflects the market shares of all firms but, because it is calculated by squaring market shares, it gives proportionately greater weight to firms with large shares.

[76] As noted above, because we have not been able to reach a definitive conclusion about the appropriate market definition, we have conducted our analysis using a number of alternative definitions.

The United States antitrust agencies define markets using a "hypothetical monopolist test."[77] Under this test, the agencies begin by defining a relatively narrow market and ask whether a hypothetical monopolist in that market could impose "a small but significant and non-transitory increase in price, ('SSNIP')" If they conclude that the hypothetical monopolist *cannot* do so, this means that some significant competitors have been excluded from the market, and the antitrust agencies would expand the market to include more suppliers. This process would continue until the SSNIP test is satisfied, i.e., until it is concluded that a hypothetical monopolist in the defined market *could* raise prices. The agencies would then calculate the shares held by each of the firms in the defined market. The Horizontal Merger Guidelines state that "The Agencies normally consider measures of market shares and market concentration as part of their evaluation of competitive effects."[78]

Under many economic theories, higher measures of concentration are associated with lower levels of competition. Moreover, a substantial body of empirical work in, and across, varying industries confirms that high concentration often lead to higher prices and markups.[79] In particular, the preponderance of evidence is that markets with a small number of firms, or markets in which a few firms have very large market shares, tend to have higher prices than markets where concentration is lower.[80]

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[77] United States Department of Justice and Federal Trade Commission (2010), "Merger Guidelines," Section 4.1.1. A similar approach is employed in other jurisdictions. See, for example, Article 102 of the Treaty on the Functioning of the European Union (TFEU), which prohibits abusive conduct by companies that have a dominant position on a particular market. Defining the relevant market is essential for assessing dominance, because a dominant position can only exist on a particular market.

[78] Ibid., p. 15.

[79] For example, Pautler notes: "Several studies of price/concentration relationships indicate that prices are higher where concentration is higher or the number of sellers is lower." (Paul A. Pautler, Bureau of Economics, Federal Trade Commission (2003), *Evidence on Mergers and Acquisitions*, accessed 20 January 2017, https://www.ftc.gov/sites/default/files/documents/reports/evidence-mergers-and-acquisitions/wp243_0.pdf, p. 42). Sutton states "...that a fall in concentration will lead to a fall in prices and price-cost margins is well supported both theoretically and empirically" (John Sutton (2006), *Market Structure: Theory and Evidence*, accessed 20 January 2017, http://personal.lse.ac.uk/sutton/market_structure_theory_evidence.pdf, p. 7). Timothy Bresnahan reviews a numbers of studies that "...confirm the existence of a relationship between price and concentration…" (T.F. Bresnahan, "Empirical Studies of Industries with Market Power," in *Handbook of Industrial Organization*, Vol. II, eds. R. Schmalensee and R.D. Willig, North-Holland, 1989, pp. 1011 - 1057). Coates and Hubbard find that "Empirical studies of auction markets and various industries, such as airlines, railroads, books, and pharmaceuticals, show prices declining as the number of bidders or rivals increases and as concentration of sales in a few firms declines" (John C. Coates IV and Glenn R. Hubbard, "Competition in the Mutual Fund Industry: Evidence and Implications for Policy," *The Journal of Corporation Law* 33(1) (August 2007), 151-222, p. 164).

[80] The Review Team would have preferred to analyze the effects of new gTLD entry on competition directly but, as noted elsewhere in this Report, they were unable to obtain data on changes in the wholesale prices actually charged by legacy gTLDs after new gTLD entry occurred. For examples of this approach see: Phillip M. Parker and Lars-Hendrik Roller, "Collusive Conduct in Duopolies: Multimarket

Our analysis, which, as noted previously, was limited to gTLDs and excluded brand and Registry Operator Code of Conduct (ROCC)-exempt gTLDs, measured the change in each of the concentration measures among registries, registrars and back-end providers between September 2013, which was before the first new gTLDs entered, and March 2016.[81] Tables 8 to 10 report the results of our analysis.

Table 9 Registry, Registrar and Back-End Provider Concentration Ratios and HHIs as of March 2016[82]

	Registry		Registrar		Backend Provider	
	New gTLDs	All TLDs	New gTLDs	All gTLDs	New gTLDs	All gTLDs
4-Firm Conc. Ratio	55.3%	90.9%	47.5%	44.0%	79.7%	95.7%
8-Firm Conc. Ratio	79.2%	95.7%	65.8%	55.7%	95.8%	99.5%
HHI	962	6,364	919	1,004	1,284	6,434

Table 10 Legacy TLD Marketplace Concentration Ratios and HHIs (September 2013 vs. March 2016)[83]

	Registry			Registrar			Back-End Provider		
	Sept 2013	Mar 2016	Change	Sept 2013	Mar 2016	Change	Sept 2013	Mar 2016	Change
4-Firm Conc. Ratio	99.3%	99.4%	0.1%	50.3%	47.2%	-3.1%	100.0%	100.0%	0.0%
8-Firm Conc. Ratio	99.9%	99.9%	0.0%	61.7%	59.1%	-2.6%	N/A	N/A	N/A
HHI	7,423	7,668	245	1,214	1,143	-71	7,508	7,735	226

Contact and Cross-ownership in the Mobile Telephone Industry," *The RAND Journal of Economics* 28(2), (1997) https://www.jstor.org/stable/2555807?seq=1#page_scan_tab_contents, pp. 304 - 322. Jerry Hausman, "Mobile Telephone," in *Handbook of Telecommunications Economics: Volume I*, eds. M.E. Cave, S.K. Majumdar, and I. Vogelsang, (Elsevier: 2002), http://economics.mit.edu/files/1031, 563 - 604; and Thierry Penard, "Competition and Strategy on the Mobile Telephone Market: A Look at the GSM Business Model in France," *Communications and Strategies* 45, (2002), http://www.comstrat.org/fic/revue_telech/426/CS45_PENARD.pdf, 49 - 79, who examines the effect of mobile carrier entry on the prices charged by incumbent firms.

[81] Note that measures of concentration among registries would have been substantially lower if the Review Team had defined the market to include both gTLDs and ccTLDs, and somewhat lower if it had defined the market to include gTLDs and "open" ccTLDs.

[82] Registration data are derived from monthly transaction reports as of March 2016. Backend provider data are provided by ICANN. Concentration ratios are calculated by summing the market shares of the largest n number of firms. The Herfindahl-Hirschman Index (HHI) is calculated by summing the squares of the market shares of all firms in an industry. Registries, registrars, and back-end providers are

Table 11 Registry, Registrar and Back-End Provider Concentration Ratio and HHI Changes Since Entry of New gTLDs (September 2013 vs. March 2016)[84]

	Registry			Registrar			Back-End Provider		
	Sept 2013	Mar 2016	Change	Sept 2013	Mar 2016	Change	Sept 2013	Mar 2016	Change
4-Firm Conc. Ratio	99.3%	99.4%	0.1%	50.3%	47.2%	-3.1%	100.0%	100.0%	0.0%
8-Firm Conc. Ratio	99.9%	99.9%	0.0%	61.7%	59.1%	-2.6%	N/A	N/A	N/A
HHI	7,423	7,668	245	1,214	1,143	-71	7,508	7,735	226

Concentration Among Registry Operators

In 2004, Summit Strategies International (SSI) prepared a study for ICANN that analyzed the effect of the introduction of seven new gTLDs on, among other things, concentration in "the domain name market," a market consisting of both gTLDs and ccTLDs.[85] It found that, as of the first quarter of 2004, .com had about a 45% share, .de had about a 12% share, .uk had about an 8% share, .net had about an 8% share,

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included in the analyses if there are registrations associated with that registry, registrar, or back-end provider as of March 2016. Brand and ROCC-exempt TLDs are excluded from the analyses.

[83] Registries, registrars, and back-end providers are included in the September 2013 analyses if there are registrations associated with that registry, registrar, or back-end provider as of September 2013. Registries, registrars, and back-end providers are included in the March 2016 analyses if there are registrations of Legacy TLDs associated with that registry, registrar, or back-end provider as of March 2016. Concentration ratios are calculated by summing the market shares of the largest number of firms. The 8-firm ratio for back-end providers is not available, as there are only four and five providers in September 2013 and March 2016, respectively. The Herfindahl-Hirschman Index (HHI) is calculated by summing the squares of the market shares of all firms in an industry. Brand and ROCC-exempt TLDs are excluded from the analyses.

[84] Registration data are derived from monthly transaction reports provided to ICANN by operating registries as of September 2013 and March 2016. Registries, registrars, and back-end providers are included in the September 2013 analyses if there are registrations associated with that registry, registrar, or back-end provider as of September 2013. These calculations only include legacy TLD registrations. Registries, registrars, and back-end providers are included in the analyses if there are registrations associated with that registry, registrar, or back-end provider as of March 2016. These calculations include legacy TLD and new gTLD registrations. Concentration ratios are calculated by summing the market shares of the largest n number of firms. The Herfindahl-Hirschman Index (HHI) is calculated by summing the squares of the market shares of all firms in an industry. Brand and ROCC-exempt TLDs are excluded from the analyses. Backend provider data are provided by ICANN.

[85] Summit Strategies International and ICANN (2004), *Evaluation of the New gTLDs: Policy and Legal Issues*, accessed 20 January 2017, https://archive.icann.org/en/tlds/new-gtld-eval-31aug04.pdf.

.org had about a 5% share, and .info, .nl, .biz, and .it each had about a 2% share.[86] At that time, the combined share of new gTLDs in this market was only about 4%. When it focused on a market that consisted only of gTLDs, SSI found (at 96) that .com had a share of about 73%, .net had a share of about 12%, .org had a share of about 8%, and the combined share of the seven new gTLDs was less than 7%. Although SSI noted that the introduction of the new gTLDs had doubled their number, it also remarked on "the relatively small impact that the new gTLDs have had on overall market share"[87].

In a later study that was also performed for ICANN, Katz, Rosston and Sullivan found that .com's share was about 75% throughout the period from July 2001 through July 2009, about the same as SSI had found for early 2004.[88] In a later paper, the same authors concluded that "The finding that *undifferentiated* gTLDs introduced in the past have been unable to provide significant competition for the well-established .com is not surprising; because they are undifferentiated, these gTLDs lack unique features that offer value to users that might (at least partially) offset user familiarity with and perception of .com as the primary gTLD location for commercial (and even non-commercial) websites."[89]

SSI also found significant concentration among the operators of gTLDs. In particular, it found that gTLDs operated by Verisign had a combined share of 85% of the gTLD market, Afilias had an 11.5% share, and NeuLevel had a 2.7% share in 2004. [90] In their Phase 1 Competition Study using data for November 2014 after the introduction of new gTLDs that began in late 2013, Analysis Group found that Verisign's share was 85.0%, Public Interest Registry's share was 6.6%, Afilias' share was 4.0%, and the share of Neustar, Inc., which had acquired NeuLevel in 2006, was 1.6%.[91] Thus, although concentration among operators was somewhat lower than in 2004, a market that consisted of operators of gTLDs was still highly concentrated and Verisign's share was essentially unchanged.

The Review Team found that, although measured concentration among registry operators remains high, new gTLD entry has reduced overall concentration.[92] In particular, the share of registrations served by

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[86] Ibid. pp. 95-96. .biz was the only new gTLD among this group.
[87] Ibid. p. 96.
[88] Katz et. al (2010), *An Economic Framework*, pp. 47-48.
[89] Ibid. p. 7, emphasis in original.
[90] Ibid. p. 96, Table 3.
[91] Analysis Group, *Phase I Assessment* (2015), p. 15, Table 2.
[92] In calculating market shares, the shares of registries with the same parent company were combined. For example, Donuts, Inc. was treated as a single firm whose market share was calculated as the aggregation of the shares of all registry LLCs that are owned by Donuts. In characterizing concentration as high or low, we are employing the standards based on HHIs that are described in United States Department of Justice and Federal Trade Commission (2010), "Merger Guidelines," pp. 18-19. The Guidelines note that "Based on their experience, the Agencies generally classify markets into three types: [1] Unconcentrated Markets: HHI below 1500; [2] Moderately Concentrated Markets: HHI between 1500 and 2500; [3] Highly Concentrated Markets: HHI above 2500" (p. 19). The agencies note: "The purpose of these thresholds is not to provide a rigid screen to separate competitively benign mergers from anticompetitive ones, although high levels of concentration do raise concerns. Rather, they provide one way to identify some mergers unlikely to raise competitive concerns and some others for which it is particularly important to examine whether other competitive factors confirm, reinforce,

the four largest operators declined by about 8 percentage points, the share of registrations served by the eight largest operators declined by about 4 percentage points, and the HHI declined by over 1,000 points between 2013 and 2016. These differences can be explained largely by the fact that concentration among new gTLD registry operators is substantially lower than that among all gTLD operators. For example, where the HHI for all gTLD operators is 6,360, the HHI for new gTLD operators is only 683.

Because parking rates vary widely among registries, we plan to calculate measures of concentration for registries that take parking into account and to report the findings in our final report.[93]

Defining the market to include only all gTLDs implicitly assumes that all gTLDs compete at least some degree with one another. An alternative approach might, therefore, be to analyze competition among the members of *groups* of gTLDs, each of which could be expected to compete for the patronage of a particular group of potential registrants. For example, we would not expect .beer to compete with .photography for registrants.

To consider this possibility, one might calculate concentration within "families" of gTLDs, where the "families" are constructed on the basis of domain names that suggest that they compete for the same registrants. However, doing so raises two issues. First, groupings based on the names of gTLDs may be either under- or over-inclusive because the names may be poor indicators of substitution by registrants. Second, they may result in markets that are too narrowly defined because they fail to account for competition for registrants between the members of the "families" and legacy gTLDs. To pursue the previous example, although .pub, .bar and .beer might be regarded as substitutes by bar owners, defining a market to include only those entities ignores the possibility that bar owners might also consider .com, .biz and .xyz as substitutes. Unfortunately, we do not have the data that would permit us to address these issues and we have declined to pursue this approach. If ICANN wishes to consider competition in more narrowly defined markets in the future, it will need to obtain additional information about substitution by registrants, perhaps through additional surveys. Such a survey is described below.

The previous analysis implicitly assumed that the geographic market in which gTLDs compete is worldwide. In doing so, we necessarily excluded ccTLDs as competitors because, with few exceptions, ccTLDs do not compete with one another. However, it is likely that ccTLDs compete with gTLDs within more narrowly defined geographic markets. In order to consider this possibility, we plan to make use of the data collected in connection with the LAC Study, which used WHOIS information to determine country-specific registry market shares for countries in the Latin American and Caribbean region. We

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or counteract the potentially harmful effects of increased concentration. The higher the post-merger HHI and the increase in the HHI, the greater are the Agencies' potential competitive concerns and the greater is the likelihood that the Agencies will request additional information to conduct their analysis" (p. 19).

[93] ICANN has contracted with nTLDstats.com at the Review Team's request to calculate statistics for legacy gTLDs as they do for new gTLDs to allow direct comparison of parking rates.

would use these data to calculate registry operator HHIs on a country-by-country basis.[94] The Review Team expects to report the results of this analysis in our final report.

Concentration Among Registrar Owners

Concentration among registrar owners, which was relatively low prior to new gTLD entry, declined somewhat between 2013 and 2016.[95] In particular, the 4-firm and 8-firm concentration ratios both declined by about 6 percentage points and the HHI declined by about 200 points.[96] These declines are largely the result of the slightly lower concentration among registrar owners for new gTLDs – for example the HHI is 909 – as compared to the HHI for registrar owners for all gTLDs, which is 1,003.

Concentration Among Back-End Providers

Although the supply of back-end services to *all* gTLDs is highly concentrated, with a 4-firm concentration ratio, the sum of the market shares of the 4 largest firms, of 95.7% and an HHI of 6,434, the supply of back-end services to *new* gTLDs is considerably less concentrated, with a 4-firm concentration ratio of 79.7% and an HHI of only 1,284.[97] This disparity largely reflects the fact that both the largest legacy gTLD, .com, and the second largest legacy gTLD, .net, both obtain their back-end services from a single supplier[98]. In fact, measured concentration among back-end providers to *new* gTLDs is not much greater than it would be if there were 8 providers each with an equal share.[99] Although measured concentration among *all* back-end providers remains high, it has declined significantly since new gTLD entry. In particular, the 4-firm concentration ratio declined by about 4 percentage points and the HHI declined by about 1,000 points between 2013 and 2016.

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[94] Although this analysis would be limited to the LAC region, ICANN would be able to conduct the same analysis for all regions on a regular basis by following the same methods as did the authors of the LAC study.

[95] As in the case of registry owners, the market shares of registrars with the same parent company were combined in the calculations. Market share and HHI calculations for registrars were based on registrar entities identified by Globally Unique Registrar ID (i.e., IANA ID).

[96] We also found that, although concentration among registrars *for a given gTLD* was high for some gTLDs, for most it was generally quite low. Moreover, even where concentration was relatively high, there were often a large number of registrars for a gTLD. For example, among legacy gTLDs, the HHI among registrars for .pro was 3,666 but there were 90 registrars and the HHI among registrars for .job was 7,155 but there were 63 registrars. Among new gTLDs, the HHI among registrars for .bar was 5,864 but there were 95 registrars and the HHI for .casa was 5,191 but there were 62 registrars.

[97] As in the cases of registry and registrar owners, the market shares of back-end providers with the same parent company were combined in the calculations.

[98] In fact, Verisign, which operates both .com and .net, provides its own back-end services.

[99] In that case, the HHI would be 1,250.

Price Analysis

We were unable to determine whether the prices charged by legacy gTLD to registrars have declined since the introduction of new gTLDs because legacy gTLDs are not required to provide this information under their agreements with ICANN and only two legacy gTLDs provided this information in response to Analysis Group's data requests.[100] Moreover, if, as seems likely, the legacy gTLDs that are subject to price caps, set their wholesale prices at their respective caps during the period under review, we would still not be able to observe any effect.[101] However, in an attempt to determine whether the new gTLDs have provided price competition to the legacy gTLDs, Analysis Group compared simple and weighted averages of the wholesale prices charged by a sample of new gTLDs to simple and weighted averages of the legacy gTLDs *price caps*, where the weights are the number of registrations served by a TLD, as of March 2016. The following table reports the results of these calculations:

Table 12
Simple and Weighted Average Prices of Legacy and New gTLDs[102]

	Legacy gTLDs	New gTLDs
Simple Average Wholesale Price	$16.72	$21.46
Weighted Average Wholesale Price	$7.92	$15.38

On average, the wholesale prices charged by new gTLDs are *at or above* the wholesale prices that legacy gTLDs are permitted to charge under their price caps, although the differences are *not* statistically

Commented [jD13]: Edit from **Brian** on April 26, 2017: Analysis Group, Phase II Assessment (2016), p.45. Table 9 of their assessment shows the full results of these calculations as compared with the results of their Phase I Assessment (2015). Section III provides a description of the manner in which the new gTLD sample was constructed.

[100] The only legacy gTLD wholesale price data that were available to Analysis Group came from correspondence between registry operators and ICANN, which contained information on price caps, the maximum prices that legacy gTLDs were permitted to charge, which are not necessarily the same as the price that they actually charged. Although Analysis Group also obtained actual wholesale price information as of April 2016 for 12 legacy gTLDs that responded to a data request, those data were provided on a confidential basis to Analysis Group and thus cannot be publicly reported or analyzed at the individual gTLD level. Below, we explain why we believe that all gTLDs should be required to provide this information in conjunction with future economic studies in their agreements with ICANN.

[101] Even if we could observe the wholesale prices that registries actually charged, if the wholesale price caps were binding throughout the period, i.e., if prices were always at the caps, we would still be unable to observe the effect of new gTLD entry on the prices that legacy gTLDs *would have wanted to pay* because we would not observe those prices. It is possible that legacy gTLDs reduced their wholesale prices *below* their respective price caps in response to new gTLD entry although we have no evidence that this was the case.

[102] Analysis Group, Phase II Assessment of the Competitive Effects Associated with the New gTLD Program (October 2016), accessed 27 January 2017, https://www.icann.org/news/announcement-2016-10-11-en, p.45. Table 9 of their assessment shows the full results of these calculations as compared with the results of their Phase I Assessment (2015). Section III provides a description of the manner in which the new gTLD sample was constructed.

significant.[103] Moreover, although the new gTLDs have set wholesale prices somewhat above the price caps, their presence might nonetheless have provided a constraint on the ability of legacy gTLDs to increase their prices significantly if the caps were removed, although we cannot be certain that this was the case. We are unable to reach a definitive conclusion on this issue in the absence of adequate data and until more time has passed for the effect of new gTLD entry to be fully felt. It is our view that this issue should be addressed in more detail in future.[104]

In 2006, well before the beginning of the recent round that substantially increased the number of gTLDs, a majority of the ICANN Board expressed the view that regulation of the prices charged by TLDs might no longer be needed:

> *…we appreciate the community's concerns regarding the price of .COM names. However, we firmly believe that ICANN is not equipped to be a price regulator, and we also believe that the rationale for such provisions in registry agreements is much weaker now than it was at the time the Verisign agreement was originally made in 1998. At that time, Verisign was the only gTLD registry operator, and .COM was, as a practical matter, the only commercially focused gTLD. Today, there are a number of gTLD alternatives to .COM, and several ccTLDs that have become much stronger alternatives than they were in years past. In addition, the incredibly competitive registrar market means that the opportunities for new gTLDs, both in existence and undoubtedly to come in the future, are greater than they have ever been. It may well be that .COM offers to at least some domain name registrants some value that other registries cannot offer, and thus the competitive price for a .COM registration may well be higher than for some alternatives. But price is only one metric in a competitive marketplace, and relative prices will affect consumer choices at the margin, so over time, we expect the registry market to become increasingly competitive. One way to hasten that evolution is to loosen the artificial constraints that have existed on the pricing of .COM and other registries. We began this process with the .NET agreement, and we now continue it with the .COM agreement, and we expect to continue along this path as we renegotiate agreements with other registries.*[105]

This view was apparently not universally held, however. In the following year, some members of the GNSO Council in a report to the ICANN Board stated that:

> *When a registry contract is up for renewal, there should be a determination whether that registry is market dominant. That determination should be made by a panel of competition experts including competition lawyers and economists… If the panel*

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[103] An important caveat to this finding is that we do not have access to transactional, premium or promotional pricing data for either new or legacy gTLDs. Thus, it is likely that the actual sales prices for many of the domains registered may be significantly different from the reported wholesale prices.
[104] Another possible source of price data are the prices that prevail in secondary market transactions. Although we have been unable to pursue this alternative, ICANN may wish to do so in the future.
[105] ICANN, *Joint Statement from Affirmative Voting Board Members* (28 February 2006), accessed 20 January 2017, http://archive.icann.org/en/topics/vrsn-settlement/board-statements-section1.html.

determines that there is a situation of market power, then the registry agreement must include a pricing provision for new registrations, as currently is included in all of the largest gTLD registry agreements…. Regardless of whether there is market dominance, consumers should be protected with regard to renewals due to the high switching costs associated with domain names…. The price for new registrations and renewals for market dominant registries and for renewals for non-market dominant registries should be set at the time of the renewal of the registry agreement. Such a price should act as a ceiling and should not prohibit or discourage registries from providing promotions or market incentives to sell more names…. The pricing provision should include the ability for an increase if there is cost justification for such an increase …non-dominant registries may differentially price for new registrations, but not for renewals. Dominant registries may not differentially price for new registrations or renewals…all registries should provide equitable pricing opportunities for all registrars….[106]

In any event, legacy gTLDs remain subject to price caps, although some have been permitted to increase their prices over time. In principle, the current substantial increase in the number of gTLDs provides an opportunity for ICANN to evaluate the claim of some that legacy gTLDs remain "market dominant" and for ICANN to re-examine its earlier claim that the entry of new gTLDs, in much greater numbers than had occurred earlier, has weakened the rationale for price regulation. However, in the absence of adequate data on the wholesale prices actually charged by both legacy and new gTLDs, the Review Team has been unable to address this issue. Elsewhere in this report, the Review Team suggests how ICANN might remedy this shortcoming in the future.

The Review Team also notes that wholesale prices may vary among gTLDs even if competition among them is intense. For example, if the market for gTLDs is characterized by *monopolistic competition,* where products are differentiated and consumers choose on the basis both of product characteristics and price but there is free entry of suppliers, prices might vary because of differences in product characteristics.[107] For example, gTLDs with a small number of customers that have an intense demand for them because there are few close substitutes might charge higher prices than ones with many customers for which customers regard other gTLDs as particularly close substitutes. Thus, even if we were to observe that new gTLDs charge, on average, higher prices than do legacy gTLDs, that could reflect differences in the products that they offer and the number of consumers that they serve rather than the absence of competition among them. Of course, we do not have data on the prices charged by most legacy gTLDs and, even if we did, those prices are as likely to reflect the effects of price regulation as of outcomes produced by competitive market forces.

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[106] ICANN Board Report (4 October 2007), *Council Report to the Board: Policies for Contractual Conditions, Existing Registries, PDP Feb 06*, https://gnso.icann.org/en/issues/gtld-policies/council-report-to-board-PDP-feb-06-04oct07.pdf, pp. 29-30. Other recommendations "received some support from either constituencies of NomCom members."

[107] JBDON, "Pricing under monopolistic and oligopolistic competition," accessed 20 January 2017, http://www.jbdon.com/pricing-under-monopolistic-and-oligopolistic-competition.html. As defined by economist Joe S. Bain, "Monopolistic competition is found in the industry where there are a large number of sellers, selling differentiated but close substitute products."

Finally, even if monopolistic competition is a reasonably accurate description of the DNS "market," it is unlikely to be a complete description because of both inertia and network effects. That is, some registries may be able to earn excess profits in the long run because consumers incur costs when they switch to new entrants and/or because some consumers prefer to employ large, established domains.

Recommendation 2: Collect wholesale pricing for legacy gTLDs.

Rationale/related findings: The lack of wholesale data will continue to frustrate future CCT Review Teams' efforts to analyze competition between new and legacy gTLDs in the domain marketplace.

To: ICANN organization

Prerequisite or Priority Level: Low

Consensus within team: Yes

Details: ICANN or an outside contractor should acquire wholesale price information from both legacy and new gTLD registries on a regular basis and provide necessary assurances that the data would be treated on a confidential basis. The data could then be used for analytic purposes by the ICANN organization and by others that execute non-disclosure agreements. This may require amendment to the Base Registry Agreement for legacy gTLDs.

Success Measures: The availability of relevant data for use by the ICANN organization, contractors and the ICANN community for its work in evaluating competition in the DNS space.

Recommendation 3: Collect transactional pricing for the gTLD marketplace.

Rationale/related findings: The lack of transactional data will continue to frustrate future CCT Review Teams' efforts to analyze competition between registries in the domain marketplace.

To: ICANN organization

Prerequisite or Priority Level: Medium

Consensus within team: Yes

Details: ICANN or an outside contractor should attempt to acquire at least some samples of wholesale price information from registries on a regular basis and provide necessary assurances that the data would be treated on a confidential basis. The data could then be used for analytic purposes by the ICANN organization and by others that execute non-disclosure agreements.

Success Measures: The availability of relevant data for use by the ICANN organization, contractors and the ICANN community for its work in evaluating competition in the DNS space.

Recommendation 4: Collect retail pricing for the domain marketplace.

Rationale/related findings: The lack of retail data will continue to frustrate future CCT Review Teams' efforts to analyze competition between registries and TLDs in the domain marketplace.

To: ICANN organization

Prerequisite or Priority Level: Low

Consensus within team: Yes

Details: ICANN does not currently make use of retail price data that can be obtained directly from public sources such as https://tld-list.com/ and https://namestat.org. We recommend that ICANN develop the capability to analyze these data on an ongoing basis. Alternatively, an amendment to the Registrar Accreditation Agreement would ensure the availability of this data with all due diligence to protect competitive information.

Success Measures: The availability of relevant data for use by the ICANN organization, contractors and the ICANN community for its work in evaluating competition in the DNS space.

Recommendation 5: Collect parking data.

Rationale/related findings: The high incidence of parked domains suggests an impact on the competitive landscape, but insufficient data frustrates efforts to analyze this impact.

To: ICANN organization

Prerequisite or Priority Level: High

Consensus within team: Yes

Details: ICANN should regularly track the proportion of TLDs that are parked with sufficient granularity to identify trends on a regional and global basis.

Success Measures: The availability of relevant data for use by the ICANN organization, contractors and the ICANN community for its work in evaluating competition in the DNS space.

Recommendation 6: Collect secondary market data.

Rationale/related findings: The presence of price caps in certain TLDs frustrates efforts to comprehensively analysis competitive effects. The true market price may very well be above the caps. Accordingly, the secondary market is the best place to see price movement.

To: ICANN organization

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Details: ICANN should engage with the secondary market community to better understand pricing trends.

Success Measures: The availability of relevant data for use by the ICANN organization, contractors and the ICANN community for its work in evaluating competition in the DNS space.

Recommendation 7: Collect TLD sales at a country-by-country level.

Rationale/related findings: The lack of country-level data will continue to frustrate future CCT Review Teams' efforts to analyze competition between registries and TLDs in the domain marketplace. In particular, the lack of country-specific data frustrates efforts to understand the competition between gTLDs and ccTLDs.

To: ICANN organization

Prerequisite or Priority Level: Low

Consensus within team: Yes

Details: Some of this data is collected by third parties such as CENTR, so it is possible that ICANN can arrange to acquire the data.

Success Measures: The availability of relevant data for use by the ICANN organization, contractors and the ICANN community for its work in evaluating competition in the DNS space.

Recommendation 8: Create, support and/or partner with mechanisms and entities involved with the collection of TLD sales data at the country-by country level.

Rationale/related findings: The lack of country-level data will continue to frustrate future CCT Review Teams' efforts to analyze competition between registries and TLDs in the domain marketplace. ccTLD data, which is useful in understanding the overall TLD marketplace, is particularly hard to come by.

To: ICANN organization

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Details: Some regional organizations such as CENTR, AFTLD and APTLD are already engaged in data collection and statistical research initiatives. ICANN should strive to partner with these organizations and explore ways in which it can enhance the capacities of these organizations so that their output is geared to ICANN's data requirements. ICANN should also seek to promote the ability of these disparate organizations to coordinate their efforts in areas such as standardization of research and methodology, so that their data is comparable. The regional initiatives that ICANN has already undertaken, such as the LAC and MEA DNS Marketplace studies, should be undertaken at regular periods, as they too provide invaluable country-level and regional data.

Success Measures: The availability of relevant data for use by the ICANN organization, contractors and the ICANN community for its work in evaluating competition in the DNS space.

VII. Consumer Choice

The Review Team also considered the question of whether the introduction of new gTLDs increased the choices available to registrants. As discussed previously in this report, the expansion of the program gives registrants new options in terms of new languages, character sets, geographic identities, and new specialized categories. However, we sought to establish whether registrations in the new gTLDs represented a positive choice available to registrants or if a significant number felt obliged to register defensively in new gTLDs to protect their brand or identity. In particular, there has been considerable discussion of whether trademark holders would find it necessary to register those trademarks as domain names in new gTLDs in order to prevent others from doing so. There have been a number of studies (see below) of the extent to which registrants have engaged in such "defensive" registrations which we have supplemented with our own analysis. We initially address the general topic of consumer choice and then perform a specific analysis related to trademark holders below.[108]

In evaluating these results, it is important to note that not all instances of duplicate registrations are necessarily "defensive" in nature. In particular, a trademark holder might register the same mark in multiple domains in order to increase the probability that it will be found through user searches, a consideration that has become increasingly important as the number of domains has grown.[109] A total of 52% of registrants interviewed by Nielsen gave as one of the reasons for registering duplicate domain names "To help ensure my site gets found in searches."[110] Another 51% of the respondents indicated that they engaged in duplicate registrations "to protect my brand or organization name" and the same percentage gave as one of the reasons "to keep someone else from having a similar name."[111] Thus, it is appears that "defensive" registrations are a real phenomenon, apparently because the costs of challenging registrations by others can be considerably greater than the costs of registering their marks in multiple domains.[112]

Commented [jD14]: Edit from **Brian** on April 26, 2017: Nielsen, Registrant Survey Wave 2 (2016), p. 13.

Commented [jD15]: Edit from **Brian** on April 26, 2017: Ibid. Many registrants chose both responses; a total of 60% of registrants of new gTLDs selected one of the two responses.

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[108] In this chapter, the term consumers is used primarily to refer to domain name registrants and not consumer end-users, whose behavior and beliefs are largely covered in the Consumer Trust chapter.
[109] Consider users that search for web sites by guessing Internet addresses. As the number of TLDs increases, finding the "correct" website by guessing becomes more difficult and, on average, the number of required guesses is substantially increased. Faced with this fact, one would expect that some "guessers" would use search engines more frequently than in the past. However, some registrants may still choose to register in several TLDs in order to reduce the number of guesses that a user must make in order to find them.
[110] Nielsen, *ICANN Global Registrant Survey Wave 2* (August 2016), accessed 25 January 2017, 13. https://www.icann.org/news/announcement-2-2016-09-15-en
[111] Nielsen, *Registrant Survey Wave 2* (2016). Many registrants chose both responses; a total of 60% of registrants of new gTLDs selected one of the two responses.
[112] Appendix G: Bibliography includes a series of questions that may be included in future surveys of domain name registrants to better understand the choices they make when registering domain names.

Previous Studies

Krueger and Van Couvering surveyed 1,043 brand names of Fortune 100 companies and found the following registration percentages: (1) 100% in .com; (2) 76% in .org; (3) 84% in .net; (4) 69% in .info; (5) 65% in .biz and (6) 57% in .mobi.[113] Zittrain and Edelman found that, six months after open registration in .biz began, 91% of a sample of .biz domain names were also registered in .com, 63% were also registered in .net, and 49% were also registered in .org.[114] Strategies International analyzed the extent of duplicate name registrations and the presence of the same registered name holder between four of the then-new and three legacy TLDs and found that: "The statistics for .info indicate that only 11% of registrants hold the same name in .com, which suggests that .info has created significant new opportunities. With .biz, 42% of duplicate registrations appear to be registered to the same party, thereby suggesting that they are protective in nature."[115] Katz, Rosston, and Sullivan analyzed the overlap in domain registrations for 200 of the top 500 global brands as ranked by Brand Finance and found (at 61) "that a very high percentage of them were registered in the different TLDs" that they examined.[116] However, they also found "a big range in the share of registered domains with content" and that the percentage of active sites "was quite low" except for .com. Finally, Halvorson et al, who employ a variety of measures to identify matches of registrants between .com and .biz, found "at least some degree of a match for around 40% of the [biz-com] pairs [they] could assess."[117] Using what they describe as "stronger indicators" they classified 11.6% of biz domains as "defensive."

CCTRT Analysis

The Global Registrant Survey, Wave 2, found that 35% of all surveyed registrants had registered at least one name in a new gTLD.[118] Of those, 60% indicated that they had registered to "protect existing domain(s) and ensure no one else got a domain similar" while 34% indicated that they registered to

Commented [jD16]: Edit from **Brian** on April 26, 2017: Nielsen, Registrant Survey Wave 2 (2016), p. 164.

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[113] F. Krueger and A. Van Couvering, "An Analysis of Trademark Registration Data in New gTLDs," *Minds + Machines Working Paper,* (2010-02): 51.
[114] Berkman Center for Internet and Society Harvard Law School, *Survey of Usage of the .biz TLD* (June 2002), accessed 25 January 2017, https://cyber.law.harvard.edu/tlds/001/
[115] Summit Strategies International, *Evaluation of the New gTLDs: Policy and Legal Issues* (July 2004), accessed 25 January 2017, 102. Same Registered Name Holder in .com/.net/.org, at 102 It is important to note, however, that the authors point out that "The data…is based on an extremely small sample of only 100 names for .biz and .info." This study was prepared for ICANN.
[116] M.L. Katz, G.L. Rosston, and T. Sullivan, *Economic Considerations in the Expansion of Generic Top-Level Domain Names, Phase II Report: Case Studies* (December 2011), accessed 25 January 2017, https://archive.icann.org/en/topics/new-gtlds/phase-two-economic-considerations-03dec10-en.pdf These domains were .com, .net, .org, .biz, .info, .mobi, and .us. This study was prepared for ICANN.
[117] T. Halvorson, J. Szurdi, G. Maier, M. Felegyhazi, C. Kreibich, N. Weaver, K. Levchenko, and V. Paxon, "The BIZ Top-Level Domain: Ten Years Later" in *Passive and Active Measurement*, eds N. Taft and F. Ricciato. (Germany: Springer Berlin Heidelberg, 2012), 221-230, 228. http://www.icir.org/vern/papers/dot-biz.pam12.pdf
[118] Nielsen, *Registrant Survey Wave 2* (2016), 164.

"appeal to new Internet users or new types of customers" and 6% registered because the "name I wanted was not available using older gTLDs."

We also performed an analysis of strings registered as second level domains in new gTLDs and comparable strings registered in .com, which is currently by far the most popular of the legacy gTLDs. Our analysis focused on two potential patterns. In the first case, we looked to see if the *identical string* registered as a second level domain in a new gTLD was registered as a second level domain in .com (e.g., if example.tld was registered, was example.com also registered?)[119] We found that 82% of registrations in new gTLDs had identical matches in .com. However, there was considerable variation in the percentages of identical matches across gTLDs. For example, among 414 gTLDs with at least 1000 registrations, 32 had at least 99% of their second level domains as exact matches in .com, including both .wang and .xin which are the third and eleventh largest new gTLDs in registration volumes, as of November 2016; and nearly two-thirds (271) had at least 95% of their second level domains as exact matches in .com. At the other extreme, 10 gTLDs had fewer than 50% of their second level domains as exact matches in.com. Of these, half were IDNs. In general, IDN gTLDs contained fewer identical matches to .com, with only about 70% of registrations in IDN gTLDs being identical matches to domains in .com. Unfortunately, because our analysis did not include WHOIS data we were unable to determine whether the same registrant had registered both domains.

In a second analysis, we examined whether the *combined string* representing both the TLD and the SLD was registered as a second level domain in .com (e.g., if example.tld was registered, was exampletld.com also registered?) In this analysis, we found that only 8% of registrations in the new gTLDs were also registered in .com in the combined form.

Overall, we conclude that while some registrants are motivated by defensive objectives in the new gTLDs, many registrants choose to register in new gTLDs to broaden the appeal or reach of their offerings even when similar options remain available in legacy gTLDs.

CCT Analysis: Trademarks

In addition to this general analysis, we examined the prevalence of defensive registrations by trademark holders. We, together with the Analysis Group, used data from the most recent "round" of new gTLDs to analyze the same issue. Specifically, we began by identifying a number of trademarks for which one might expect some degree of "defensive" registrations together with the identity of the registrant. The data collected by Analysis Group were a 25% random sample of trademark holders that were obtained from a database administered by Deloitte that contains all recorded trademarks in the Trademark Clearinghouse Database. Identities of registrants were obtained from the WHOIS domain registration

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[119] Analysis Group, *Summary of Trademark Strings Registered in Legacy gTLDs Trademark Strings that are also Brand TLDs* (October 2016), accessed 25 January 2017, https://community.icann.org/download/attachments/56135378/New%20gTLD%20Registrations%20of%20Brand%20TLD%20TM%20Strings%2010-18-16.pdf?version=1&modificationDate=1481305785167&api=v2

database.[120] The trademark strings analyzed were limited to verified or corrected Latin text strings in the Trademark Clearinghouse. Matches were identified as those involving an exact match in accordance with ICANN's matching criteria where the registrant was identified as the trademark holder associated with the registered string based on an approximate text comparison between registrant and trademark holder names.

Using these data, we determined: (1) whether each of the trademarks in our data was registered by the trademark holder in least one legacy gTLD; (2) whether the same string was registered by the trademark holder in at least one new gTLD and (3) for those strings that were registered by the trademark holder in at least one new gTLD, the number of new gTLDs in which the trademark holder had registered the string. We found that 54% of the strings that were registered in a legacy gTLD were also registered in at least one a new gTLD. We also found that, of these strings, 3 was the median number of registrations in new gTLDs. That is, half of the trademarks that were analyzed were registered in 3 or fewer new gTLDs.[121] We also found that three-quarter of these strings were registered in 7 or fewer new gTLDs and that 90% of these strings were registered in 17 or fewer new gTLDs.[122] At the same time, a small number of trademarked strings were registered in a large number of TLDs: 4% of trademarks were registered in at least 100 new gTLDs, and one was registered in 406 new gTLDs. Extrapolating the sample across all marks, we would expect that trademark holders would have made approximately 80,000 total registrations of their trademarks in new gTLDs as of September 2016, which represents .3% of all registrations within new gTLDs[123]. We conclude from this analysis that, although the direct cost of the New gTLD Program for most trademark holders related to defensive registrations appears to be lower than some had feared prior to the inception of the program, a small fraction of trademark holders are likely incurring significant costs.

In addition to defensive registrations, some registries offer a service through which a trademark owner can block others from using its marks without the need to purchase the domain name itself. For example, Rightside offers what it describes as "a cost-effective one-step, registry-wide solution to protecting your client's trademarks against cybersquatting…with our Domain Protected Marks List (DPML)" as an alternative to having "to defensively purchase trademarks and trademarks + terms on

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[120] Analysis Group, *Independent Review of Trademark Clearinghouse (TMCH) Services Draft Report* (July 2016), accessed 25 January 2017, https://newgtlds.icann.org/en/reviews/tmch/draft-services-review-25jul16-en.pdf

[121] The mean number of duplicate registrations was 8 but statistic is strongly influenced by a small number of trademarks that were registered in a very large number of domains. For example, one trademark was registered in 406 domains.

[122] In assessing these findings, it is important to emphasize that the extent of duplicate registrations that we observe may have been influenced, to some degree at least, by the use by trademark holders of the blocking services described above. That is, to the extent that trademark holders obtained protection through blocking, they may have had ess need to register their trademarks "defensively."

[123] The TMCH review found a total of 19,642 registrations by trademark holders of their mark using a 25% sample. Extrapolating this to 100% gives us an expected total of 78,568 total registrations. In comparison, as of September 2016 there were a total of 24,814,734 registrations across all new gTLDs.

every TLD…." [124] Similarly, Donuts notes that its "Domains Protected Marks List (or DPML) protects trademark holders against cybersquatting at a fraction of the cost of defensively and individually registering the terms across all Donuts domains."[125] At the time of publication, we did not have any data related to the costs incurred by trademark holders making use of these blocking services, although we expect to obtain more information prior to the publication of our final report.

Recommendation 9: Conduct periodic surveys of registrants.

Rationale/related findings: The inability to determine registrant motivations and behavior frustrates efforts to study competition and choice in the TLD marketplace.

To: ICANN organization

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Details: The survey should be designed and continuously improved to collect registrant trends. Some initial thoughts on potential questions is in Appendix F: Possible Questions for a Future Consumer Survey.

Success Measures: The availability of relevant data for use by the ICANN organization, contractors and the ICANN community for its work in evaluating competition in the DNS space.

Recommendation 10: The ICANN community should consider whether the costs related to defensive registration for the small number of brands registering a large number of domains can be reduced.

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[124] Rightside Registry, "DPML," accessed 21 September 2016, http://rightside.co/registry/dpml/

[125] Donuts Registry, "DPML," accessed 21 September 2016, http://www.donuts.domains/services/dpml. According to domainname.com: "Three of the largest new top-level domain registries has [sic] created a new domain name blocking tool. Many clients prefer to avoid defensive registrations but these services offer some economies of scales and are worth considering for key brands. The service is offered by three new gTLD providers; Donuts (covering 172 TLDs) Rightside (covering 36 TLDs) and Minds + Machines (covering 16 TLDs) The blocking tool allows trademark owners to block their marks and related terms, at the second level, in all supported new gTLDs, for one fee per registry. The service is designed to be an economical way for trademark owners to protect their rights from cybersquatters. With the block it is not necessary for trademark owners to take out defensive registrations in each of the three providers TLDs In order to obtain a block, the term you want to block must be based on a trademark validated by the Trademark Clearinghouse."
"Cost Efficient Domain Name Protection!" *Domain Info*, 4 November 2015, accessed 28 September 2016, http://domainincite.com/21404-icann-retires-affirmation-of-commitments-with-us-gov
Recently, Donuts announced a new version of its blocking service that will allow brand owners the opportunity to obtain blocking in return for a fee of $10,000. [Jack Jack Elis, "Donuts unveils enhanced trademark protection offering; expert urges lower cost options in next gTLD round," *World Trademark Review,* 29 September 2016, accessed 29 September 2016, http://www.worldtrademarkreview.com/blog/Detail.aspx?g=fa934d21-cfa7-459c-9b1f-f9aa61287908

Rationale/related findings: We found that while most trademarks were either not registered in new gTLDs or in only a handful of new gTLDs, a small number of trademarks were responsible for a large number of registrations across many new gTLDs and were likely bearing most of the cost of registrations. This bimodal distribution suggests that RPMs tailored to certain of these trademarks may be appropriate.

To: Subsequent Procedures Policy Development Process (PDP) Working Group and/or Rights Protection Mechanisms (RPM) PDP Working Group

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Benefits vs. Confusion to End Users

The CCT Review Team attempted to consider the benefits of the expanded number of gTLDs weighed against the risks that such expansion could create confusion, particularly for consumer end users navigating to domain names. Although there was some data available about the benefits of the expansion for consumer end users and registrants, we lacked specific data about the risks of confusion. As a result, our analysis on this topic is incomplete.

Using the data available to us, we looked at whether the New gTLD Program benefitted consumer end users and registrants. In the case of consumer end users, we examined benefits from increased choice and variety. In particular, we looked at the benefits consumer end users would gain in having a broader and more diverse source of domain names to access. For registrants, we considered the benefits in having a broader and more diverse source of domain names for registration. This includes geographic TLDs, TLDs using non-Latin scripts and written in languages other than English and new service models.

Benefits to consumer end users include greater choice in the number of generic top-level domain names (given the increase from some 22 in 2013 to over 1000 in 2016, which does not include the country code top-level domain names (ccTLD)[126]. Another benefit is greater "specificity" of identification regarding the domain names (i.e., a consumer end user can search within a narrower range of gTLDs depending upon their interests – for example search for local florists within .berlin or banks within .bank), as well as increased availability of non-Latin scripts in the Internationalized Domain Names (IDNs)[127].

Commented [jD17]: Edit from **Brian** on April 26, 2017: Nielsen, Consumer Research Wave 2 (2016), pp. 7-9, 33, 35. While awareness and visitation of new gTLDs has not increased at the rate of the legacy TLDs the rise has been greatest in Africa, Asia/Pacific and Latin America (see pp. 7 - 8). It is also clear that trust in new gTLDs is high for IDNs and that expectations on restrictions on same add to consumer confidence (p.9).

[126] When the New gTLD Program was launched, there were 22 gTLDs and over 250 ccTLDs that could be used.

[127] Nielsen, *ICANN Global Consumer Research Wave 2* (June 2016), accessed 25 January 2017, 7-9, 33, 35. https://www.icann.org/news/announcement-2-2016-06-23-en While awareness and visitation of new gTLDs has not increased at the rate of the legacy TLDs the rise has been greatest in Africa, Asia/Pacific and Latin America (see p78). It is also clear that trust in new gTLDs is high for IDNs and that expectations on restrictions on same add to consumer confidence (p.9).

When comparing the 2013 environment to that of 2016, registrants have benefited from a broader and more diverse source of domain names for registration (e.g., geographic TLDs, new scripts)[128]. Registrants indicated that having an extension that was relevant to their needs was one of the most important factors in determining which gTLD to purchase compared to the previous situation in which the most important factor was price[129]. There has also been a clear increase in the number of jurisdictions governing the registrations, with a growing number of jurisdictions (from 6 to 47) having at least one gTLD registry operator between 2013 and 2015[130]. The number of registrars has not increased at the same pace, but there were already a large number of registrars prior to the inception of the New gTLD Program. There has been an increase in the total number of second level registrations in IDNs in the same period[131].

In addition to understanding these benefits, we attempted to see if there was evidence that an increased number and type of gTLDs (geographic, new internationalized scripts) might create confusion for consumers, and if such confusion existed, whether it would reduce the value to registrants of the new type and number of gTLDs. This effort was hampered by a lack of data relevant to this topic. In particular, the Nielsen surveys of consumer-end users did not include specific questions on this issue.

Nevertheless, there is evidence from the Nielsen surveys that over half of end users search for websites via search engines[132] rather than via specific names of gTLDs. The use of search engines to find websites might reduce the risk of confusion as to specific searches depending upon the sophistication of the search engines, but more research would need to be conducted to confirm this hypothesis. In order to

Commented [jD18]: Edit from **Brian** on April 26, 2017: Nielsen, Registrant Survey Wave 2 (2016) indicates that awareness of new gTLDs is increasing compared to relative stagnation or decrease in legacy gTLDs. See also ICANN, gTLD Marketplace Health Index (July 2016), accessed 25 January 2017. https://www.icann.org/en/system/files/files/gtld-marketplace-health-index-beta-19jul16-en.pdf, pp. 5 – 7.

Commented [jD19]: Edit from **Brian** on April 26, 2017: Nielsen, Consumer Research Wave 2 (2016), p. 33 states: "Having a well-known extension and one that seems most relevant are the main factors across the board in determining which gTLD to purchase" [emphasis added], which must be a reference to registrants as they are the only ones purchasing gTLD domain names.

Commented [jD20]: Edit from **Brian** on April 26, 2017: ICANN, gTLD Marketplace Health Index (2016), p. 3.

Commented [jD21]: Edit from **Brian** on April 26, 2017: ICANN, gTLD Marketplace Health Index (2016), pp. 19-530, 831.

Commented [jD22]: Nielsen, Registrant Survey Wave 2 (2016), p. 102. Shows that 59% of respondents (in both 2016 and 2015) indicated that using a search engine is their preferred method for finding a website. Second to search engines was typing the domain name directly into the browser; 22% in 2016 of respondents indicated they did this, down very slightly from 23% from 2015.
Nielsen, Consumer Research Wave 2 (2016), p. 22 indicates that over 70% of consumers use search engines to find information about domain name extensions. This may mean that the specific names themselves are less relevant to consumers (and to a certain extent registrants) when searching for a domain so long as they arrive at the gTLD(s) or the content that they are searching for.

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[128] Nielsen, ICANN *Global Registrant Survey Wave 2* (2016)indicate that awareness of new gTLDs is increasing compared to relative stagnation or decrease in legacy gTLDs. ICANN, *gTLD Marketplace Health Index* (July 2016), accessed 25 January 2017. https://www.icann.org/en/system/files/files/gtld-marketplace-health-index-beta-19jul16-en.pdf

[129] Nielsen, *Consumer Research Wave 2* (2016), 33: "Having a well-known extension and one that seems most relevant are the main factors across the board in determining **which gTLD to purchase"** emphasis added, which must be a reference to registrants as they are the only ones purchasing gTLD domain names.

[130] ICANN, *gTLD Marketplace Health Index* (2016), 3.

[131] ICANN, *gTLD Marketplace Health Index* (2016), 19-530, 831.

[132] Nielsen, *Registrant Survey Wave 2* (2016), 102. Shows that 59% of respondents (in both 2016 and 2015) indicated that using a search engine is their preferred method for finding a website. Second to search engines was typing the domain name directly into the browser 22% in 2016 of respondents indicated they did this, down very slightly from 23% from 2015.

Nielsen, *Consumer Research Wave 2* (2016), 22that over 70% of consumers use search engines to find information about domain name extensions. This may mean that the specific names themselves are less relevant to consumers (and to a certain extent registrants) when searching for a domain so long as they arrive at the gTLD(s) or the content that they are searching for.

accurately assess whether the increase in gTLDs increased the risk of confusion for consumer end users and/or registrants, more research would need to be gathered on this specific topic.

Greater specificity and "sectoralization" of the new gTLDs has permitted consumer end users to have greater choice in identifying the domains from which they wish to find goods and services. This increased specificity is also reflected in the greater number of geographic gTLDs, potentially permitting narrower of searches and search parameters at second level. The expansion of availability of IDNs has also increased consumer choice, although we do not yet have sufficient evidence of whether any confusion has arisen as a result. Again, if search engines are a primary source for finding domain names, the use of non-Latin script would help to narrow the search and in theory, reduce confusion but there is no clear data on that aspect from the current surveys[133].

Commented [jD23]: Edit from **Brian** on April 26, 2017: Nielsen, Registrant Survey Wave 2 (2016), p. 46.

Recommendation 11: The next consumer end-user and registrant surveys to be carried out should include questions to solicit additional information on the benefits of the expanded number, availability and specificity of new gTLDs.

In particular, for any future consumer end-user surveys, a relative weighting of the positive contributions to consumer choice with respect to geographic name gTLDs, specific sector gTLDs and Internationalized Domain Name (IDN) gTLDs should help determine whether there is a clear preference by consumers for different types of gTLDs and whether there are regional differences or similarities in their preferences.

The next consumer end-user survey should also include further questions about whether confusion has been created for consumers in expanding the number and type of gTLDs, how they navigate to websites and if the nature and manner of search has an impact on confusion (positive, negative or indifferent).

For registrants, it will be important to gather further data on the geographic distribution of gTLD registrants and the services provided to them by registrars, particularly in different regions, including languages offered for service interactions and locations beyond the primary offices.

The next CCT review would then be able to assess in more detail these aspects, by which time there should be more data and a longer history of experience with the new gTLDs, and in particular with those in languages other than English and those using non-Latin scripts.

Rationale/related findings: The absence of data related to consumer confusion means that it is difficult to determine whether consumer confusion arises as a result of the sheer number and variety of TLDs available or whether the benefits of increased consumer choice may have been offset by any possible increase in confusion. The next CCT Review should have this data available[134] before the start of the

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[133] Nielsen, *Registrant Survey Wave 2* (2016), 46.

[134] The data could be gathered as part of the regular review of the TLD marketplace health index or in specific consumer end-user or registrant surveys.

review to ensure that nothing has been missed and that if any possible constraints or confusions exist, they can be addressed in the future.

To: Next CCT Review and ICANN organization

Prerequisite or Priority Level: Low

Consensus within team: Yes

Registry Policies

As a part of a domain name's attractiveness to consumers as a product, its registration policies and rights protection mechanisms can be used as a point of comparison. In order to discover differences or uniqueness of new gTLDs we analyzed the registry policies of the top 30 new gTLDs[135] that related to protection of privacy and registration rules. (Also, a comparison between use of the Uniform Rapid Suspension System (URS) and its differences between the Uniform Domain-Name Dispute Resolution Policy (UDRP) was part of this analysis; see rights protection mechanisms section). For comparison purposes, the top five ccTLDs (by registration numbers) were included.[136]

The vast majority (90%) of the top 30 new gTLD registries have a published privacy policy. Two-thirds of these registries would not share personal data with third parties except in cases required by law and in compliance with WHOIS policy. Many (30%) strictly underline that they are not selling personal data to third parties. 6.6% of these registries share personal data of its registrants with third parties. 13.3% will ask for registrant consent before sharing the registrant's personal data. In regard to registries with personal data protection policies, most of them (43.3%) have strict obligations to take reasonable measures to provide the security of personal data, and 33.3% of those registries have information in their policies regarding collecting of cookies.[137]

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[135] Registries of the top 30 strings by registration number were analysed: .xyz, .top, .wang, .win, .club, .link, .site, .science, .bid, .xin, .red, .ren, .party, .online, .click, .loan, .xn--ses554g (网址), .date, .website, .space, .kim, .work, .tech, .lol, .webcam, .nyc, .realtor, .review, .news, .guru. Listed strings are managed by following companies: .XYZ, Jiangsu Bangning Science & Technology Co., Ltd, Zodiac Leo Limited, First Registry Limited, .Club Domains LLC, Uniregistry, Corp., Radix, Famous Four Media, Elegant Leader Limited, Afilias, Beijing Qianxiang Wangjing Technology Development Co., Ltd, Hu Yi Global Information Resources (Holding) Company, (Minds + Machines) Top Level Domain Holdings Limited, Neustar + (The City of New York, a municipal corporation under the laws of the State of New York, by and through the New York City Department of Information Technology & Telecommunications), Real Estate Domains LLC, Rightside, Donuts.

[136] .cn, .de, .uk, .nl and .ru

[137] "Regulation (EU) 2016/679 of the European Parliament and of the Council," *Official Journal of the European Union*, (2016). http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679&from=en This will have strong impact on privacy issue in many fields, including domain names. McKay Cunningham, "Free Expression, Privacy and Diminishing

Of the five compared ccTLDs, all have rules that do not permit sharing personal data with third parties. On the other hand, there are differences among them regarding data that they are publishing through WHOIS. ccTLDs do not have the same WHOIS policies, so that is the reason for those differences. Three of those ccTLDs have information on collecting cookies. Regarding content, three have no applicable rules and the remaining two have certain rules for dealing with illegal content. Three of the ccTLDs are open to registration by anyone and the remaining two require at least a local address within the jurisdiction of the ccTLD.

For the gTLDs, there are no location within jurisdiction requirements, except for .nyc (only businesses and organizations with an NYC address and individuals with a primary residence in NYC can register a .nyc domain name). Regarding eligibility to register, 20% of registries are referring to the Trademark Clearinghouse for registration priority. All of these registries have compliance procedures for abusive behavior or other violations of the policy. Registries have provided online forms for filing the complaint or a specific address for this purpose. Also, all registries have the right to act in case of abusive usage of a domain name. None of these registries have policies that regulate parked domain names.

For the compared ccTLDs, three have registrations that are open to anyone and the remaining two require at least a local address. All five of the ccTLDs for which information has been collected have compliance procedures for abusive behavior or other violations of policy. In relation to abusive usage of domain names, all refer to relevant policy or law. Besides that, one has a "blacklist" database: domains on that list are not allowed to be repeatedly registered or utilized. Regarding parked domain names, the five ccTLDs do not have any concrete policies.

Most of the top 30 gTLD registries (73%) have different voluntary PICs, such as those that involve security issues, abuse prevention, additional rights protection mechanisms, etc. Besides voluntary PICs, there are mandatory PICs for all new gTLDs as a part of the Registry Agreement. All new gTLD registry operators will use only ICANN-accredited registrars and include GAC safeguards.[138]

With the inclusion of the PICs as an additional value of new gTLDs, non-price competition was partly improved for new gTLDs when compared to legacy gTLDs. To that extent, expectations of consumers for gTLD restrictions are increasing. While both consumers and registrants felt that more restrictions could be protective, registrants were slightly more opposed to restrictions, relative to consumers.[139] Users at a

Commented [jD24]: Edit from **Brian** on April 26, 2017: Nielsen, Registrant Survey Wave 2 (2016); Nielsen, Consumer Research Wave 2 (2016)

Sovereignty in the Information Age: The Internationalization of Censorship," *Arkansas Law Review, Forthcoming* (2015): 7. https://ssrn.com/abstract=2706730 (The Data Protection Regulation (Regulation), set to become effective in 2017, envisions worldwide applicability of European privacy law. The Regulation, "for the first time, leaves no legal doubt that no matter where the physical server of a company processing data is located, non-European companies, when offering services to European consumers, must apply European rules.")

[138] ICANN Board Resolution 2013.07.02.NG07–2013.07.02.NG08, "Category 1 Safeguard Advice from GAC," (2013), accessed 1 December 2016, https://www.icann.org/resources/board-material/resolutions-new-gtld-2013-07-02-en#1.c

[139] Nielsen, *ICANN Global Registrant Survey Wave 2* (August 2016), accessed 1 December 2016, 29. https://www.icann.org/news/announcement-2-2016-09-15-en

global level generally believe that restrictions increased trust.[140] Regarding specific restrictions, there are wide differences among regions. For example, registrants in North America are more likely to want local presence restrictions while those in Asia are more likely to want credential validation.[141] A clear majority of consumer-end users feel that there should be at least some level of restrictions on who can register domain name, such as credentials, location and consistent use.[142]

On the other hand, there are many similarities among the policies of legacy gTLDs. Most of the legacy gTLD registries were already involved in the domain name industry, so they had developed policies based on their previous experience and background. Besides that, for some issues rules were already set by ICANN or they were part of accreditation process so in those cases there were no need or incentive for further developments by registries.

The URS [143] is a rights protection mechanism developed in order to provide protection to trademark holders under the New gTLD Program (see rights protection mechanisms section). Compared to the previously existing UDRP, which was the primary process established by ICANN for the resolution of disputes regarding the registration of domain names that infringe trademark rights, the URS is much faster in taking down websites that are found to infringe on intellectual property rights as well as in fighting cybersquatting. In 2012, there were 3,987 UDRP cases filed but when the URS became available there were slightly fewer UDRP cases filed (3,436). However, it is too early to conclude if users recognized the URS as a substitute for the UDRP.[144]

Compared to the UDRP, fees are lower for the URS and range from USD 300 – 500. The UDRP provider (WIPO) charges from USD 1500 – 2000 for a single panelist and from USD 2000 – 4000 for three panelists.[145]

Generally, the URS has more extensive rights protection mechanisms. Its limitation is that it was designed to be used for obvious cases of infringement.[146] Although the URS is faster and cheaper than

Commented [jD25]: Edit from **Brian** on April 26, 2017: Nielsen, Registrant Survey Wave 2 (2016), p. 31

Commented [jD26]: Edit from **Brian** on April 26, 2017: Nielsen, Consumer Research Wave 2 (2016), p. 9.

Commented [jD27]: Edit from **Brian** on April 26, 2017: ICANN, Rights Protection Mechanisms Review (2015).

Nielsen, *ICANN Global Consumer Research Wave 2* (June 2016), accessed 25 January 2017, https://www.icann.org/news/announcement-2-2016-06-23-en

[140] Nielsen, Registrant Survey Wave 2 (2016), 31

[141] Ibid. p. 30.

[142] Nielsen, *ICANN Global Consumer Research Wave 2* (June 2016) accessed 23 January 2017, 9, https://newgtlds.icann.org/en/reviews/cct/phase2-global-consumer-survey-23jun16-en.pdf

[143] ICANN, *Uniform Rapid Suspension System (URS) Rules* (June 2013), accessed 1 December 2016, https://newgtlds.icann.org/en/applicants/urs/rules-28jun13-en.pdf

[144] ICANN, *Rights Protection Mechanisms Review* (2015), accessed 20 January 2017, https://newgtlds.icann.org/en/reviews/rpm/rpm-review-11sep15-en.pdf

[145] WIPO, "Schedule of Fees under the UDRP," last modified 1 December 2002, http://www.wipo.int/amc/en/domains/fees/

[146] D. S. Prahl and E. Null, "The New Generic Top-Level Domain Program: A New Era Of Risk For Trademark Owners And The Internet," *The Law Journal of the International Trademark Association* 101, (2011): 1784. http://www.inta.org/TMR/Documents/Volume%20101/vol101_no6_a4.pdf ("…the URS is designed to be used for obvious cases of infringement and requires the complainant to prove bad faith and meet the clear and convincing evidentiary standard. In United States jurisprudence,

the UDRP, its only purpose is to suspend domain name registrations and was built to combat obvious cases of trademark infringement. Thus, the same domain name could be registered by another potential infringer once it is released. Some rights holders prefer having the domain names transferred to their portfolios, which cannot be achieved by using the URS. Still, it is a fairly effective, cheap and fast rights protection mechanism despite the limitations mentioned above. In general, even though it is too early to say whether it is substitute for the UDRP or not, certainly it is an additional value implemented as part of the New gTLD Program.

Recommendation 12: Collection and processing personal data should be more strictly regulated within rules which are mandatory for all gTLD registries. Registries should not be allowed to share personal data with third parties without consent of that person or under circumstances defined by applicable law. Also, it is necessary to be aware of new European personal data regulation – the General Data Protection Regulation (GDPR) – especially on issues such as the possible applicability of the regulation and "right to be forgotten."

Rationale/related findings: As mentioned above, the policies of the top 30 new gTLDs have rules regarding sharing of personal data of its registrants with third parties. Furthermore, some of those policies have very clear statements that registries have the right to share or sell personal data.

To: ICANN organization

Prerequisite or Priority Level: Medium

Consensus within team: Yes

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there are generally three standards of proof from least to most onerous: (1) "preponderance of the evidence," (2) "clear and convincing," and (3) "beyond a reasonable doubt. Because ICANN requires the clear and convincing standard for a URS, the URS panelist will take a more exacting look at the facts and evidence than is required in a UDRP proceeding, where the preponderance of the evidence standard applies.")

VIII. Consumer Trust

Background

The Review Team sought to determine the extent to which the increase in the number of gTLDs has promoted consumer trust.[147] As with our findings about competition and consumer choice issues, we are still in the early stages of the New gTLD Program and hence our data reflects an early look, rather than a long-term assessment of the program. To examine the impact of the New gTLD Program on consumer trust, among other issues, ICANN commissioned the Nielsen company to survey global online consumers and global domain name registrants. To avoid confusion between the CCTRT's broad definition of "consumer" and the narrower segment of internet users surveyed in ICANN's Global Consumer Surveys, we refer to the latter group as "consumer end users." Two surveys of each group were taken approximately one year apart between 2015 and 2016. These surveys aimed at assessing the current TLD landscape, as well as measuring factors such as consumer awareness, experience, choice, and trust in new TLDs and the Domain Name System in general. Reports on the results of the consumer end-user survey were published in April 2015 and June 2016, and reports on the results of the registrant surveys were published in September 2015 and August 2016.[148] Nielsen directed its "consumer" survey at global internet users who spent more than five hours per week on the internet and its "registrant" survey at the primary decision makers that registered a domain name.[149]

Based on this data, we identified two primary factors relevant to the public's trust of gTLDs: familiarity and security. The concept of "familiarity" includes the awareness and reputation of the gTLD. The concept of "security" includes concerns about DNS abuse and expectations about restrictions concerning who can register a domain name within a particular gTLD.

Commented [jD28]: Edit from **Brian** on April 26, 2017: Nielsen, Consumer Research (2015); Nielsen, Consumer Research Wave 2 (2016); Nielsen, Registrant Survey (2015); Nielsen, Registrant Survey Wave 2 (2016). Statistical significance test results in the Nielsen surveys are reported at a 95% confidence interval. Although differences in the results of the surveys between 2015 and 2016 reported below are small in many cases and not all are statistically significant, the Review Team nonetheless views the survey data as useful information for its analysis of consumer trust in new gTLDs (results of the significance tests can be found in the respective Nielsen reports). The Review Team recognizes that further study of consumer trust will be required to compare these early measures with the results of future surveys.

Commented [jD29]: Edit from **Brian** on April 26, 2017: Nielsen, Consumer Research Wave 2 (2016), p.3; Nielsen, Registrant Survey Wave 2 (2016), p. 4.

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[147] For the purposes of our review, we recognized that "consumers" (typically, a natural person, acting primarily for personal, family or household purposes) generally fall into two categories: (I) Internet Users and other market participants who make use of domains through DNS resolution, such as by navigating to a URL or sending an e-mail; and (ii) Registrants (and potential registrants), which may, depending on the context, include individuals, businesses, and government agencies.

[148] Nielsen, *ICANN Global Consumer Research* (April 2015), accessed 7 February 2017, https://www.icann.org/news/announcement-2015-05-29-en; Nielsen, *ICANN Global Consumer Research Wave 2* (June 2016), accessed 7 February 2017, https://www.icann.org/news/announcement-2-2016-06-23-en; Nielsen, *ICANN Global Registrant Survey* (September 2015), accessed 7 February 2017, https://www.icann.org/news/announcement-2015-09-25-en; Nielsen, *ICANN Global Registrant Survey Wave 2* (August 2016), accessed 7 February 2017, https://www.icann.org/news/announcement-2-2016-09-15-en**.** Statistical significance test results in the Nielsen surveys are reported at a 95% confidence interval. Although differences in the results of the surveys between 2015 and 2016 reported below are small in many cases and not all are statistically significant, the Review Team nonetheless views the survey data as useful information for its analysis of consumer trust in new gTLDs (results of the significance tests can be found in the respective Nielsen reports). The Review Team recognizes that further study of consumer trust will be required to compare these early measures with the results of future surveys.

[149] Nielsen, *Consumer Research Wave 2* (2016), p.3; and Nielsen, *Registrant Survey Wave 2* (2016). p. 4.

Typically, awareness is the most basic knowledge of a domain name extension. Familiarity can be considered a higher level of awareness; more experience and understanding about a particular domain name extension. In addition to providing data on aspects of awareness of gTLDs, the global consumer end-user and registrant surveys also asked consumers about the level of their trust in new gTLDs as compared to that of legacy gTLDs and their comfort levels with providing certain types of sensitive information to new gTLDs as compared to legacy gTLDs. The following discussion sets forth the most pertinent findings from those studies.

Awareness and Visitation

In terms of awareness, the logical predecessor to familiarity, the ICANN Global Consumer Survey found that consumer end-user "total awareness" of new gTLDs increased from 46% to 52% between 2015 and 2016.[150] Total awareness of new gTLDs by registrants was higher than awareness for consumer end users and remained stable, showing no statistically significant change between 2015 (66%) and 2016 (64%).[151] Interestingly, consumer end-user and registrant awareness of any new gTLDs specified in the survey was higher in the Asian, African, and South American regions than it was in North America and Europe.[152] As one might expect, total awareness of new gTLDs is lower than that of legacy gTLDs, which have total consumer end-user and registrant awareness levels of 98% or more in both 2015 and 2016.[153]

Nielsen also found that consumer end users do not visit new gTLDs as often as they do legacy gTLDs. Comparing visitation rates between highly known legacy gTLDs (.com, .net, .org) and specified new gTLDs (.email, .photography, .link, .guru, .realtor, .club, .xyz), the data showed that in 2015, 71% of consumer end users visited a legacy gTLDs in the "high" category vs. 15% of consumer end users that visited specified new gTLDs (.email, .photography, .link, .guru, .realtor, .club).[154] In 2016, an even higher percentage of consumer end users reported visiting these same legacy gTLDs (81%), while the number of consumer end users visiting the specified new gTLDs was down slightly (12%).[155] When additional new gTLDs were added to the survey questions in 2016 (.news, online, .website, .site, .space, .pics, .top), the reported visitation rate was 15%.[156] Generally speaking, the average visitation rates for new gTLDs were closest to the rates reported for legacy gTLDs in the moderately known categories (.info, .biz), 22% in 2015 and 27% in 2016.[157]

Expectations about Relationship of gTLD Name to Websites Using That gTLD

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[150] Nielsen, *Consumer Research Wave 2* (2016), p. 42 (for "consistent" gTLDs listed in both 2015 and 2016 surveys).
[151] Nielsen, *Registrant Survey Wave 2* (2016), p. 12.
[152] Nielsen, *Consumer Research Wave 2* (2016), p.42; Nielsen, *Registrant Survey Wave 2* (2016), p. 42.
[153] Nielsen, *Consumer Research Wave 2* (2016), p. 8; Nielsen, *Registrant Survey Wave 2* (2016), p. 12.
[154] Nielsen, *Consumer Research Wave 2* (2016), p.7.
[155] Ibid, p.7. Note these are averages of regional responses. Statistical significance of regional results in 2015 and 2016 can be found on p. 15 for legacy gTLD visitation and pp. 46-47 for new gTLD visitation.
[156] Ibid, p.7.
[157] Ibid, p.7.

The surveys indicated that the public expected a connection between the name of a gTLD and the websites associated with that gTLD. Fifty-five percent of consumer end users surveyed expected "a very clear relationship" between domain names and websites registered under those domain names.[158] In addition, 79% of consumer end users also expect that the actual use of the domain name to be consistent with the meaning of the gTLD.[159] This issue relates to another question posed in the surveys: Why websites have different extensions? A majority of registrants believed that websites have different extensions to "properly identify the purpose or owner or to give an indication of content or function."[160]

Nevertheless, when asked about how much attention consumer end users pay to a domain extension, the survey reported that 29% reported "they don't pay much attention," 34% only visit sites with "familiar" domains, and 37% base their visitation upon search engine results.[161] This finding is consistent with another reported result, that the public's preferred way of finding a website is with search engines.[162] The consumer end-user survey indicated that in 2016, 67% of consumer end users preferred to use a search engine to find a website as compared to 20% that indicated that they preferred to type the domain name directly into a browser.[163] Registrants also reported a preference for using search engines to find websites and also identified search engines as the leading method that they use to find out more information about gTLDs.[164]

When asked what makes domain extensions trustworthy, consumer end users reported that reputation and familiarity played key roles.[165] In the related topic of why consumer end users visit gTLDs, Nielsen

Commented [jD30]: Edit from **Brian** on April 26, 2017: Nielsen, Consumer Research Wave 2 (2016), pp.19-20. See also pp. 56-57. Survey respondents indicated that relevance and appeal of information are significant factors in determining whether an unfamiliar domain extension feels trustworthy. The respondents inserted these results in a text box. See also: NCC Group (2016), Trust in the Internet Survey, accessed 7 February 2017, https://www.nccgroup.trust/globalassets/resources/uk/surveys-and-reports/2016/trust-in-the-internet-survey-2016-discussion-paper/, p. 5. More than 50% of those surveyed identify the following as a factor that would increase their confidence in new domains: "Brand/company clearly communicates the steps to take to secure your personal information within the website." We note that it appears this study was commissioned by an entity that has a business interest in marketing both cyber- security products and the .trust domain.

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[158] Nielsen, *Consumer Research Wave 2* (2016), pp. 9, 50. The survey asked the following question: "Think about accessing a website with one of the newer domain extensions (the part after the "dot"). If the domain name extension in question is descriptive of a service or item, would you expect that all websites using that domain extension have a direct relationship to it? For example, if you go to .bank, would you expect to see registrations by banks across the globe? If you go to .paris do you expect to see domain names connected to the city of Paris? If you go to .film do you expect to see content related to films?" *Id.* at appended survey question Q890, p. 20.

[159] Ibid, p.27. In relation to legacy gTLDs, the survey asked respondents to answer "yes" or "no" as to whether they felt that certain restrictions on registration of a gTLD should be enforced. The reported result relates to the following restriction: "[r]equirements for use of the name to be consistent with the meaning of the gTLD (e.g., use of a .net name must be for network operations purposes)." See appended survey question Q767, p. 16.

[160] Nielsen, *Registrant Survey Wave 2* (2016), pp. 25-26.

[161] Nielsen, *Consumer Research Wave 2* (2016), p.54.

[162] Ibid, p.77.

[163] Ibid, p.77.

[164] Nielsen, *Registrant Survey Wave 2* (2016), pp.102, 32.

[165] Nielsen, *Consumer Research Wave 2* (2016), p.19-20. See also pp. 56-57. Survey respondents indicated that relevance and appeal of information are significant factors in determining whether an unfamiliar domain extension feels trustworthy. The respondents inserted these results in a text box. See also: NCC Group (2016), *Trust in the Internet Survey*, accessed 7 February 2017, https://www.nccgroup.trust/globalassets/resources/uk/surveys-and-reports/2016/trust-in-the-internet-survey-2016-discussion-paper/, p. 5. More than 50% of those surveyed identify the following as a factor that would increase their confidence in new domains: "Brand/company clearly communicates the steps to take to secure your personal information within the

found that consumer end users choose to visit sites based upon relevance of the gTLD to the information they seek. Consumer end users also tend to visit sites with which they are already familiar.[166] Interestingly, registrants may presume familiarity *and trust* of certain domains based on the name (such as a reference to a prominent city) regardless of whether the gTLD has actually been delegated.[167] Conversely, the public may experience discomfort visiting sites with unfamiliar gTLDs.[168] When deciding whether to visit a website with an unfamiliar gTLD, consumer end users look to usage (their own prior usage or the popularity of the website), site appeal or interest, and reputation (good reviews, recommendation, etc.).[169]

Public Trusts Legacy gTLDs More Than New gTLDs

The survey data shows that both consumer end users and registrants trust new gTLDs less than they do legacy gTLDs. In both 2015 and 2016, consumer end users reported trusting specified new gTLDs approximately only half as much as specified legacy gTLDs. [170] For example, in 2015, consumer end users found 90% of specified legacy gTLDs to be very/or somewhat trustworthy but only 49% of specified new gTLDs were found to be very/somewhat trustworthy.[171] Results were similar in 2016, with consumer end users reporting that 91% found specified legacy gTLDs to be very/somewhat trustworthy, whereas 45% found new gTLDs to be very/somewhat trustworthy. In Wave 2 of the consumer end user survey, Nielsen added certain specified new gTLDs to its survey question, the percentage of new gTLDs that consumer end users found to be very/somewhat trustworthy rose to 52% for the added new gTLDs.[172] When surveyed about specific new gTLDs, consumer end-user responses varied depending upon the particular gTLD and the consumer's region.[173] For example, approximately half the consumer end-users surveyed reported high levels of trust for .news, .photography, .email, and .realtor with .news seen as the most trustworthy across all regions.[174] When asked similar questions about specified legacy

website." We note that it appears this study was commissioned by an entity that has a business interest in marketing both cyber- security products and the .trust domain.

[166] Nielsen, *Consumer Research* (2015), pp. 8, 18, 36.

[167] Nielsen, *Registrant Survey Wave 2* (2016), p. 39.

[168] NCC Group, *Trust in the Internet Survey* (2016), p. 3. In 2016, 52% of those surveyed reported feeling "not very or not at all comfortable" visiting websites with new domains.

[169] Nielsen, *Consumer Research Wave 2* (2016), pp. 38.

[170] Nielsen, *Consumer Research* (2015), pp. 9, 40; Nielsen, *Consumer Research Wave 2* (2016), p. 9. Note the referenced figures are based on averages of regional responses. Statistical significance for changes in trustworthiness from 2015 to 2016 for selected gTLDs can be found on p. 55 of the Wave 2 Study.

[171] Nielsen, *Consumer Research* (2015), pp. 9, 40. Specified legacy gTLDs: .com, .net, .org; specified new gTLDs: .email, .photography, .link, .guru, .realtor, .club; .xyz.

[172] Nielsen, *Consumer Research Wave 2* (2016), p. 9. Added new gTLDs (.news, online, .website, .site, .space, .pics, .top).

[173] Ibid, p. 55.

[174] Ibid, p. 55.

gTLDs, over 70% of consumer end-users across all regions rated .com, .org, and .net as very/somewhat trustworthy.[175]

Compared to consumer end users, registrants consistently report higher levels of trust for specified gTLDs but still report lower levels of trust for new gTLDs when compared to legacy gTLDs.[176] Registrants associate the term "trustworthy" with legacy gTLDs more than they do with new gTLDs. For example, in 2015, 83% of registrants associated the term "trustworthy" with legacy gTLDs compared to a rate of 58% for new gTLDs.[177] In 2016, 79% of registrants viewed legacy gTLDs as "trustworthy" compared to 60% for new gTLDs.[178]

This increase in the rates of trust for new gTLDs by registrants is also reflected in data regarding individual new gTLDs. For example, for the most trusted new gTLD surveyed over both waves – .email – 68% of registrants viewed this domain as "somewhat/very trustworthy" as compared to approximately 62% of consumer end-users.[179]

Consumer Behavior That Indicates Trust

In addition to surveying the public about their subjective views on trust, Nielsen also gathered data about behavior that could indicate trust, such as willingness to provide sensitive information to websites associated with new gTLDs. To a certain extent, these results were similar to differences between consumer end users' trust of new gTLDs and legacy gTLDs. For example, when asked whether they felt "very/somewhat comfortable" providing financial information to websites in the .com legacy gTLDs, 62% of consumer end users responded affirmatively compared to with only 36% when asked this same question regarding new gTLDs.[180]

Results for other types of personal information, showed lower comfort levels when consumer end users were asked about providing sensitive information to new, versus legacy, gTLDs.[181] In fact, consumer end users tended to respond that they were "not very comfortable" with providing sensitive information to new gTLDs.[182] Related to these findings, another survey on trust in the internet reflected the public's

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[175] Ibid, p. 18.
[176] Nielsen, *Registrant Survey Wave 2* (2016), p. 64. Compare trustworthiness percentages for legacy gTLDs reported on p. 27 to legacy gTLDs p. 66.
[177] Ibid, pp.27 and 66 show trustworthiness percentages.
[178] Ibid, pp.27 and 66 show trustworthiness percentages.
[179] Nielsen, *Registrant Survey Wave 2* (2016), p.64.
[180] Nielsen, *Consumer Research Wave 2* (2016), p. 90. The survey did not specify which new gTLD and asked "Please think about two websites. One has a .com domain extension and one has one of the new gTLDs like .club or .bank. How comfortable would you be doing each of these activities on each website?" See appended survey question Q1145, p. 31.
[181] Ibid, p. 90.
[182] Ibid, p. 90.

increasing concerns regarding stolen credit card/financial information; online security; protection and security of credit card and personal information.[183]

Registration Restrictions Contribute to Trust

The ICANN Global surveys indicated that the public expects certain restrictions about who can purchase domain names and trusts that these restrictions will be enforced.[184] The survey results also indicated that the presence of such restrictions contributed to consumer trust.[185] These results applied to all gTLDs and the percentage of the consumer end users who reported that restrictions contributed to consumer trust increased from 56% in 2015 to 70% in 2016.[186] For example, the consumer end-user surveys indicated that over 70% of those surveyed not only trusted entities that offer domain names to take precautions about who gets a domain name, they also trusted entities that offer domain names to screen individuals or companies who register for certain special domain names.[187] Moreover, over 80% of consumer end users expected the enforcement of restrictions such as requiring validation that the person/company registering site meets intended parameters and requiring validated credentials related to the gTLD.[188]

Focusing on new gTLDs, an increasing percentage of consumer end users (73%) expected at least some level of restriction on registrations in specified new gTLDs.[189] Registrants also favored restrictions but were generally more opposed to restrictions than consumer end users.[190] However, when put in context of validating certain characteristics that are in keeping with the intended or implied use of the gTLD (such as a contractor's license for .builder), three out of four registrants approved of such restrictions.[191] For context, both consumer end users and registrants also expected restrictions on registrations in legacy gTLDs.[192]

Consumer Trust in the Domain Name System Overall Since the Introduction of New gTLDs

Wave 1 of the Global Survey found that about half of consumer end users trusted the Domain Name industry just as much as they did other tech industries (Internet Service Providers, software companies, computer/hardware companies, e-commerce, and web-based marketing companies) and the rest are

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[183] NCC Group, *Trust in the Internet Survey* (2016), p. 2.
[184] Nielsen, *Consumer Research Wave 2* (2016), pp. 9, 13, 26-27, 65; Nielsen, *Registrant Survey Wave 2* (2016), pp. 14, 18, 30, 68.
[185] Nielsen, *Consumer Research* (2015), pp. 9, 26; Nielsen, *Consumer Research Wave 2* (2016), pp. 9, 13, 26.
[186] Nielsen, *Consumer Research Wave 2* (2016), p. 9.
[187] Nielsen, *Consumer Research* (2015), p. 49.
[188] Nielsen, *Consumer Research Wave 2* (2016), p. 27.
[189] Nielsen, *Consumer Research Wave 2* (2016), p. 9. This figure is up from 67% in 2015.
[190] Nielsen, *Registrant Survey Wave 2* (2016), p. 67.
[191] Ibid, p. 14.
[192] Nielsen, *Consumer Research Wave 2* (2016), p. 9; Nielsen, *Registrant Survey Wave 2* (2016), p. 29.

more inclined to trust it more as opposed to less[193] Consumer end users in Africa, Asia, and South America had higher levels of trust than consumer end users in other regions.[194] Reputation was the factor cited most as the reason some consumer end users trusted the DNS more than they did other tech industries; it was also cited as the reason some consumer end users trusted the DNS less than other industries.[195] Wave 2 of the survey found that trust levels had at least remained the same since 2015.[196] The global total seemed to improve against all of the five reference industries, wave over wave, by an average of just over four percentage points.[197] At this point, with only a year between the two reports on a nascent market, it is not possible to conclude with certainty that these levels had in fact improved. The survey of registrants found positive results similar to those found in the consumer segment when it comes to trust in the domain name industry relative to other industries.[198] General reputation and self-interest drive trust.[199] Registrants expected the industry to adhere to practices that protect their own interests and commonly note security protocols, as well as just a general positive reputation, as factors that promote trust.[200] Those who trust less cite poor security and regulations, as well as general reputational issues like a lack of transparency regarding business practices.[201]

Conclusions

The global consumer end-user and registrant surveys indicate that the release of hundreds of new gTLDs does not appear to have had a negative impact on overall trust in the DNS. Looking at trust of new gTLDs specifically, the survey found that while consumer end users do not trust new gTLDs nearly as much as they do legacy gTLDs, the trust levels appear to be stable over both waves of the Global Surveys with registrants reporting slightly higher trust levels than consumer end users. Finally, a majority of both registrants and consumer end users expected gTLD registration restrictions, trust that such restrictions will be enforced, and associate such restrictions with an increase in trustworthiness.

Recommendations

Recommendation 13: Conduct a study to identify (1) which new gTLDs have been visited most; (2) the reasons users identify to explain why visited certain new gTLDs more than others; (3) what factors matter most to users in determining which gTLDs to visit and (4) how users' behaviors indicate to what extent they trust new gTLDs

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[193] Nielsen, *Consumer Research* (2015), p. 50.
[194] Ibid, p. 50.
[195] Nielsen, *Consumer Research Wave 2* (2016), p. 66.
[196] Ibid, pp. 63-64.
[197] Ibid, pp. 63-64.
[198] Nielsen, *Registrant Survey* (2015), p. 67. In Asia registrants say they hold comparatively higher trust in the domain name industry compared to other regions.
[199] Nielsen, *Registrant Survey Wave 2* (2016), pp. 77,79.
[200] Ibid, pp. 77,79.
[201] Ibid, pp. 77, 81-82.

Rationale/related findings: The Nielsen studies indicate the relationship between trust of a gTLD and several other factors, including familiarity, reputation and security. However, further information is needed on why and to what extent the public trusts new gTLDs. In particular, in addition to repeating surveys that gather the respondents' subjective views about trustworthiness, ICANN, relevant stakeholders and future Review Teams should assess what objective information can be gathered and measured that relates to trustworthiness. A further study could provide useful information for future gTLD applicants.

To: ICANN organization and future CCT Review Teams

Prerequisite or Priority Level: Prerequisite

Consensus within Team: Yes

Recommendation 14: Create incentives to encourage gTLD registries to meet user expectations regarding: (1) the relationship of content of a gTLD to its name; (2) restrictions as to who can register a domain name in certain gTLDs based upon implied messages of trust conveyed by the name of its gTLDs (particularly in sensitive or regulated industries) and (3) the safety and security of users' personal and sensitive information (including health and financial information).

Rationale/related findings: The Nielsen surveys indicate that the public expects restrictions on who can purchase domain names, expects that such restrictions will be enforced and is concerned about the security of their personal and sensitive information.

To: New gTLD Subsequent Procedures PDP Working Group

Prerequisite or Priority Level: Prerequisite (incentives could be implemented as part of application process)

Consensus within Team: Yes

Further Review

Recommendation 15: ICANN should repeat selected parts of global surveys (for consumer end-user and registrant surveys, in addition to necessary baseline and questions – repeat 700, 800, 900, and 1100 series survey questions and questions 775, 1000, 1036, 1050, 155 and 1060) to look for an increase in familiarity with new gTLDs, visitation of new gTLDs and perceived trustworthiness of new gTLDs.

Rationale/related Findings: Future review teams can compare these results to prior data to assess whether there has been an increase in familiarity with and trust of new gTLDs.

To: ICANN organization

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Recommendation 16: ICANN should commission a study to collect data on the impact of restrictions on who can buy domains within certain new gTLDs (registration restrictions) to (1) compare consumer trust levels between new gTLDs with varying degrees of registration restrictions; (2) determine whether there are correlations between DNS abuse and the presence or absence of registration restrictions; (3) assess the costs and benefits of registration restrictions and (4) determine whether and how such registration restrictions are enforced.

Rationale/related Findings: Future PDPs and review teams can use this data to inform future policy decisions regarding new gTLDs, especially as it relates to the issue of whether restrictions should be encouraged or included within the standard provisions included in ICANN new gTLD contracts.

To: ICANN organization

Prerequisite or Priority Level: Low

Consensus within team: Yes

IX. Safeguards

DNS Abuse

The ubiquitous nature of domain names makes them not only conduits of innovation but also attractive for malicious purposes intimately intertwined with cybercrime infrastructure.[202] Due to this reality, the community initially expressed concerns about whether the vast expansion of available gTLDs would result in increased DNS abuse. Consequently, the CCTRT was tasked with examining issues associated with the expansion of the DNS, including the advent of safeguards designed to preempt identified risks.[203]

Prior to the approval of the New gTLD Program, ICANN invited feedback from the cybersecurity community on DNS abuse and the risks posed from the expansion in the DNS name space.[204] The community identified the following areas of concern:

- How do we ensure that "bad actors" do not run registries?
- How do we ensure integrity and utility of registry information?
- How do we ensure more focused efforts on combating identified abuse?
- How do we provide an enhanced control framework for TLDs with intrinsic potential for malicious conduct?[205]

Commented [jD31]: Edit from **Brian** on April 26, 2017: The US Department of Commerce and ICANN Affirmation of commitments specifies "malicious abuse issues" as one of the issues to be analyzed prior to expanding the top-level domain space. Furthermore, the AoC requires the CCT Review Team to analyze the "safeguards put in place to mitigate issues involved in the introduction or expansion" of new gTLDs. Consequently, the CCT Review Team Terms of Reference define the work of the team to include a review of the "effectiveness of safeguards" and "other efforts to mitigate DNS abuse." Furthermore, the GAC's 2015 Buenos Aires Communiqué requested "that the ICANN community creates a harmonised methodology to assess the number of abusive domain names within the current exercise of assessment of the New gTLD Program." See https://gacweb.icann.org/download/attachments/27132037/BA%20MinutesFINAL.pdf?version=1&modificationDate=1437483824000&api=v2; Likewise, the 2015 Dublin Communiqué requested that the ICANN Board "develop and adopt a harmonized methodology for reporting to the ICANN community the levels and persistence of abusive conduct...that have occurred in the rollout of the New gTLD Program." See https://gacweb.icann.org/display/GACADV/2015-10-21+gTLD+Safeguards+%3A+Current+Round

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[202] Bursztein et. al., "Framing Dependencies Introduced by Underground Commoditization," (paper presented at the proceedings of the 2015 Workshop on the Economics of Information Security, Delft, Netherlands, 22–23 June 2015), https://research.google.com/pubs/pub43798.html, p. 12.

[203] The US Department of Commerce and ICANN Affirmation of commitments specifies "malicious abuse issues" as one of the issues to be analyzed prior to expanding the top-level domain space. Furthermore, the AoC requires the CCT Review Team to analyze the "safeguards put in place to mitigate issues involved in the introduction or expansion" of new gTLDs. Consequently, the CCT Review Team Terms of Reference define the work of the team to include a review of the "effectiveness of safeguards" and "other efforts to mitigate DNS abuse." Furthermore, the GAC's 2015 Buenos Aires requested "that the ICANN community creates a harmonised methodology to assess the number of abusive domain names within the current exercise of assessment of the New gTLD Program." See https://gacweb.icann.org/download/attachments/27132037/BA%20MinutesFINAL.pdf?version=1&modificationDate=1437483824000&api=v2; Likewise, the 2015 Dublin requested that the ICANN Board "develop and adopt a harmonized methodology for reporting to the ICANN community the levels and persistence of abusive conduct...that have occurred in the rollout of the New gTLD Program." See https://gacweb.icann.org/display/GACADV/2015-10-21+gTLD+Safeguards+%3A+Current+Round

[204] "ICANN (3 October 2009), *Mitigating Malicious Conduct*, accessed 9 November 2016, https://archive.icann.org/en/topics/new-gtlds/mitigating-malicious-conduct-04oct09-en.pdf. Feedback came from groups such as the Anti-Phishing Working Group (APWG), Registry Internet Safety Group (RISG), the Security and Stability Advisory Community (SSAC), Computer Emergency Response Teams (CERTs), the banking/financial and wider Internet security communities.

[205] Ibid.

Based on the community's feedback, ICANN identified several recommendations for safeguards aimed at mitigating these risks.[206] NIne safeguards were identified and recommended:

- Vet registry operators
- Require Domain Name System Security Extension (DNSSEC) deployment
- Prohibit "wildcarding"
- Encourage removal of "orphaned glue" records[207]
- Require "Thick" WHOIS records
- Centralize Zone File access
- Document registry- and registrar-level abuse contacts and policies
- Provide an expedited registry security request process
- Create a draft framework for a high security zone verification program[208]

The CCTRT was tasked with analyzing the effectiveness of the 9 recommended safeguards. To the extent possible, the CCTRT assessed the effectiveness of each of these safeguards using available implementation and compliance data. The CCTRT examined the implementation of each. Additionally, the CCTRT commissioned a quantitative DNS abuse study to provide insight into the relationship, if any, that may exist between levels of abuse and implemented safeguards in the new gTLD name space.[209]

With regard to the first safeguard, vetting registry operators, all new gTLD applicants were required to provide full descriptions of the technical back-end services that they would use, even where these services were subcontracted, as part of the application process. This was an initial evaluation to ensure technical competence. These descriptions were evaluated only at the time of application.[210] Additionally, all applicants were required to pass Pre-Delegation Testing (PDT).[211] PDT included comprehensive technical checks of Extensible Provisioning Protocol (EPP), Name Server setup, Domain Name System Security Extensions (DNSSEC), and other protocols.[212] Applicants were required to pass all of these tests before a domain name would be delegated.

Commented [jD32]: Edit from **Brian** on April 26, 2017: ICANN, Applicant Guidebook (June 2012), Section 5-4.

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[206] Ibid.
[207] The Security Skeptic, "Orphaned Glue Records," 26 October 2009, accessed 2 February 2017, http://www.securityskeptic.com/2009/10/orphaned-glue-records.html. These are records remaining once a domain name has been deleted from a registry.
[208] ICANN, "Malicious Conduct."
[209] ICANN (2 August 2016), *Request for Proposal For Study on Rates of DNS Abuse in New and Legacy Top-Level Domains*, accessed 2 February 2017, https://www.icann.org/en/system/files/files/rfp-dns-abuse-study-02aug16-en.pdf. The DNS Abuse Study will measure common forms of abuse – such as spam, phishing, malware distribution and botnet command-and-control – in all gTLDs from 1 January 2014 until December 2016.
[210] Technical requirements change over time, which would make continual auditing difficult.
[211] ICANN, *gTLD Applicant Guidebook* (June 2012), accessed 2 February 2017, https://newgtlds.icann.org/en/applicants/agb, p. 5-4.
[212] ICANN, "Pre-Delegation Testing (PDT)," accessed 2 February 2017, https://newgtlds.icann.org/en/applicants/pdt

Upon delegation, registry operators were required to comply with the technical safeguards through their Registry Agreements with ICANN. The second safeguard mandated that new gTLD registries implement DNSSEC, with active monitoring of compliance and notices sent to non-compliant registries.[213] DNSSEC is a set of protocols intended to increase the security of the Internet by adding authentication to DNS resolution to prevent problems such as DNS spoofing[214] and DNS cache poisoning[215]. All new gTLDs are DNSSEC signed at the root level, which is not indicative of second level domain names in the zone being signed.[216]

Commented [jD33]: Edit from **Brian** on April 26, 2017: ICANN, "TLD DNSSEC Report," accessed 26 April 2017, http://stats.research.icann.org/dns/tld_report/. This does not include .aero.

For the third safeguard, the Registry Agreement for new gTLDs prohibits wildcarding to ensure that domain names only resolve for an exact match and that end users are not misdirected to another domain name by a synthesized response.[217] Complaints against registry operators for permitting wildcarding may be submitted to ICANN via an online interface.[218] A registry's use of wildcarding is easily detectable because every query will receive a response, instead of a "name error," even if the domain name is not valid.[219] This means that a user will be redirected to a similar domain name. It appears that all new gTLD operators are in compliance with this safeguard.[220]

To comply with the fourth safeguard, new gTLD registries are required to remove orphan glue records when presented with evidence that such records have been used in malicious conduct.[221] Unmitigated orphan glue records can be used for malicious purposes such as fast-flux hosting botnet attacks.[222] This requirement is reactive by design, but registry operators can make it technically impossible for orphan

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[213] ICANN, "Registry Agreement," accessed 2 February 2017, https://www.icann.org/resources/pages/registries/registries-agreements-en, Specification 6, Clause 1.3.
[214] SANS Institute, *Global Information Assurance Certification Paper*, accessed 2 February 2017, https://www.giac.org/paper/gcih/364/dns-spoofing-attack/103863. DNS spoofing occurs "when a DNS server accepts and uses incorrect information from a host that has no authority giving that information" (p. 16).
[215] Sooel Son and Vitaly Shmatikov, "The Hitchhiker's Guide to DNS Cache Poisoning" (paper presented at the 6th International ICST Conference on Security and Privacy in Information Networks, Singapore, 7-9 September 2010), https://www.cs.cornell.edu/~shmat/shmat_securecomm10.pdf. DNS cache poisoning occurs when the temporary cached data stored by a DNS resolver is intentionally altered to map DNS resolutions to IP addresses routed to invalid or malicious destinations (p. 1).
[216] http://stats.research.icann.org/dns/tld_report/. This does not include .aero.
[217] ICANN, "Registry Agreement," Specification 6, Clause 2.2
[218] ICANN, "Wildcard Prohibition (Domain Redirect) Complaint Form," accessed 2 February 2017, https://forms.icann.org/en/resources/compliance/registries/wildcard-prohibition/form.
[219] https://www.icann.org/groups/ssac/documents/sac-015-en
[220] As of 1 January 2017, no complaints have been reported via this form. See also "DNSSEC Deployment Report," accessed 1 January 2017, https://rick.eng.br/dnssecstat/
[221] ICANN, "Registry Agreement," Specification 6, Clause 4.1
[222] ICANN Security and Stability Advisory Committee (March 2008), *SSAC Advisory on Fast Flux Hosting and DNS*, accessed 2 February 2017, https://www.icann.org/en/system/files/files/sac-025-en.pdf

glue records to exist in the first place and some do. Since 2013 there have been no ICANN Compliance complaints related to orphan glue records.[223]

For the fifth safeguard, Registry Agreements require new gTLD operators to create and maintain Thick WHOIS records for domain name registrations. This means that registrant contact information, along with administrative and technical contact information, is collected and displayed in addition to traditional Thin WHOIS data at the registry level.[224] ICANN Compliance monitors adherence to the Thick WHOIS requirement on an active basis, for both reachability and format.[225] Syntax and operability accuracy are evaluated by the ICANN WHOIS Accuracy Reporting System (ARS) project.[226] The Impact of Safeguards chapter of this report further explains the ARS and related compliance issues.

Registry Agreements also require all new gTLD registry operators to post abuse contact details on their websites and to notify ICANN of any changes to contact information.[227] ICANN monitors compliance with this requirement and publishes statistics, including remediation measures, in its quarterly reports.[228] The Registry Agreements require registry operators to respond to well-founded complaints but do not mandate specific procedures for doing so. Consequently, there is no standard by which ICANN compliance can assess the particular means by which registry operators resolve complaints. There were 55 complaints related to abuse contact data in 2016,[229] 61 in 2015,[230] 100 in 2014,[231] and 386 in 2013.[232]

On the sixth safeguard, new gTLD operators are required via the Registry Agreement to make their zone files available to approved requestors via the Centralized Zone Data Service.[233] Centralizing these data sources enhances the ability of security researchers, IP attorneys, law enforcement agents, and other approved requestors to access the data without the need to enter into a contractual relationship each

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[223] ICANN, Contractual Compliance Reports, https://www.icann.org/resources/pages/compliance-reports-2016-04-15-en
[224] ICANN, "What are thick and thin entries?", accessed 2 February 2017, https://whois.icann.org/en/what-are-thick-and-thin-entries
[225] ICANN, "Registry Agreement," Specification 10, Section 4.
[226] ICANN, "WHOIS Accuracy Reporting System (ARS) Project Information," accessed 2 February 2017, https://whois.icann.org/en/whoisars
[227] ICANN, "Registry Agreement," Specification 6, Section 4.1.
[228] ICANN, "Contractual Compliance Reports 2016," accessed 2 February 2017, https://www.icann.org/resources/pages/compliance-reports-2016-04-15-en
[229] https://www.icann.org/en/system/files/files/annual-2016-31jan17-en.pdf
[230] ICANN, "Contractual Compliance Reports 2015," accessed 2 February 2017, https://www.icann.org/resources/pages/compliance-reports-2015-04-15-en
[231] ICANN, "Contractual Compliance Reports 2014," accessed 2 February 2017, https://www.icann.org/resources/pages/compliance-reports-2014-2015-01-30-en
[232] ICANN, "Contractual Compliance Reports 2013," accessed 2 February 2017, https://www.icann.org/resources/pages/reports-2013-02-06-en
[233] ICANN, "Registry Agreement," Specification 4, Section 2.1; ICANN, "Centralized Zone Data Service," accessed 2 February 2017, https://czds.icann.org/en

time. There were 19 complaints related to bulk zone file access in 2016,[234] 27 in 2015,[235] and 55 in 2014.[236] No data was available in the ICANN 2013 Contractual Compliance Report.

To enhance the stability of the DNS, ICANN created the Expedited Registry Security Request (ERSR) process, which permits registries "to request a contractual waiver for actions it might take or has taken to mitigate or eliminate" a present or imminent security incident.[237] As of 5 October 2016, ICANN reports that the ERSR has not been invoked for any new gTLD.[238]

In addition to the aforementioned safeguards, ICANN, in response to community input, proposed the creation of the High Security Zone Verification Program whereby gTLD registry operators could voluntarily create high security zones.[239] An advisory group conducted extensive research to determine standards by which registries would abide to be deemed a High Security Zone. However, the proposals never reached the implementation stage due to a lack of consensus.

The technical safeguards, enforced through contractual compliance, imposed requirements upon new gTLD registries and registrars that purportedly mitigated risks inherent in the expansion of the DNS. Consequently, the CCTRT's DNS abuse study[240] may provide insight as to whether the overall implementation of these safeguards are related to any change in the levels of DNS abuse compared to legacy gTLDs.

DNS Abuse Study

In preparation for the CCTRT's review of "safeguards put in place to mitigate issues involved in…the expansion" of gTLDs, ICANN issued a report analyzing the history of DNS abuse safeguards tied to the New gTLD Program.[241] In doing so, the report assessed the various ways to define DNS abuse. Some of the challenges to defining DNS abuse arise because of the various ways that different jurisdictions define and treat DNS abuse. Certain activities are considered to be abusive in some jurisdictions but not others. Some of these activities, such as those solely focused on intellectual property violations, are interpreted

Commented [jD34]: Edit from **Brian** on April 26, 2017: ICANN, New gTLD Program Safeguards (2016)

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[234] ICANN, "Contractual Compliance Reports 2016."
[235] ICANN, "Contractual Compliance Reports 2015."
[236] ICANN, "Contractual Compliance Reports 2014."
[237] ICANN, "Expedited Registry Security Request Process," accessed 2 February 2017, https://www.icann.org/resources/pages/ersr-2012-02-25-en.
[238] ICANN Registry Services, email discussion with Review Team, July 2017.
[239] ICANN (18 November 2009), *A Model for a High-Security Zone Verification Program*, accessed 2 February 2017, https://archive.icann.org/en/topics/new-gtlds/high-security-zone-verification-04oct09-en.pdf; icann.org, "Public Comment: High Security Zone TLD Final Report," 11 March 2011, https://www.icann.org/news/announcement-2011-03-11-en
[240] ICANN, *Request for Proposal*.
[241] ICANN (July 2016), *New gTLD Program Safeguards Against DNS Abuse: Revised Report,*" accessed 2 February 2017, https://newgtlds.icann.org/en/reviews/dns-abuse/safeguards-against-dns-abuse-18jul16-en.pdf

differently not only in terms of substance but also in terms of available remedies depending upon the jurisdiction involved. Another challenge is the lack of data available regarding certain types of abuse. Nonetheless, there are core abusive behaviors for which there is both consensus and significant data available. These include spam, phishing, malware distribution, and botnet command and control.

The ICANN report acknowledged the absence of a comprehensive comparative study of DNS abuse in new gTLDs versus legacy gTLDs. Nonetheless, some metrics suggest that a high percentage of new gTLDs might suffer from DNS abuse. For example, Spamhaus consistently ranks new gTLDs amongst its list of "The 10 Most Abused Top-Level Domains" based on the ratio of the number of domain names associated with abuse versus the number of domain names seen in a zone.[242] Whereas, using a different methodology, previous research from Architelos and the Anti-Phishing Working Group has named .com the TLD with the largest number of domain names associated with abuse.[243] A 2017 report from PhishLabs also concluded that half of all phishing sites are in the .com zone, with new gTLDs comprising 2% of all phishing sites.[244] Nonetheless, the same report concluded that phishing sites in new gTLD zones have increased 1000% since the previous year. These varied conclusions illustrate the difficulty in ascertaining definitive distinctions between abuse rates in legacy and new gTLDs without performing a comprehensive assessment.

Domain names are often a key component of cybercrimes and enable cybercriminals to quickly adapt their infrastructure.[245] For example, spam campaigns often correlate with phishing and other cybercrime.[246] Domain names are also used to assist with malware distribution and botnet command and control.

To the extent possible, the CCTRT has sought to measure the effectiveness of the technical safeguards developed for the New gTLD Program in mitigating various forms of DNS abuse. As part of this process,

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[242] Spamhaus, "The World's Most Abused TLDs," accessed 2 February 2017, https://www.spamhaus.org/statistics/tlds/

[243] Anti-Phishing Working Group (29 April 2015), *Phishing Activity Trends Report: 4th Quarter 2014*, accessed 2 February 2017, http://docs.apwg.org/reports/apwg_trends_report_q4_2014.pdf; Architelos (June 2015), *The NameSentry℠ Abuse Report: New gTLD State of Abuse 2015*, accessed 2 February 2017, http://domainnamewire.com/wp-content/Architelos-StateOfAbuseReport2015.pdf

[244] PhishLabs, 2017 Phishing Trends & Intelligence Report, p. 23-24, https://pages.phishlabs.com/rs/130-BFB-942/images/2017%20PhishLabs%20Phishing%20and%20Threat%20Intelligence%20Report.pdf. New gTLDs comprised 8% of the overall TLD market during this time period when .tk is excluded from the data universe. See Kevin Murphy, Phishing in new gTLDs up 1,000% but .com still the worst, Domain Incite, Feb. 20, 2017, http://domainincite.com/21552-phishing-in-new-gtlds-up-1000-but-com-still-the-worst

[245] Symantec (April 2015), *Internet Security Threat Report*, accessed 2 February 2017, https://its.ny.gov/sites/default/files/documents/symantec-internet-security-threat-report-volume-20-2015-social_v2.pdf

[246] Richard Clayton, Tyler Moore, and Henry Stern, "Temporal Correlations between Spam and Phishing Websites" (paper presented at the LEET'09 Proceedings of the 2nd USENIX Conference on Large-Scale Exploits and Emergent Threats, Boston, MA, 21 April 2009) https://www.cl.cam.ac.uk/~rnc1/leet09.pdf.

the CCTRT has commissioned a comprehensive DNS abuse study to analyze levels of abuse in legacy and new gTLDs, which will produce a baseline dataset for further analysis.[247] This data will inform insights into the potential factors associated with correlations between abuse rates and corresponding TLDs. The study will focus on rates of spam, phishing, malware distribution, and botnet command and control in the global gTLD DNS since 1 January 2014, including legacy and new gTLDs. The results will include:

1. Overall numbers of abusive domains per TLD, registrar, reseller, and privacy/proxy service, and geographic region from 1 January 2014 until 31 December 2016, segmented according to the above DNS abuse activities.
2. Proportion of abusive domains per TLD, registrar, reseller, and privacy/proxy service, and geographic region from 1 January 2014 until 31 December 2016, segmented according to the above DNS abuse activities.
3. A determination of the average time-to-live for abusive registrations, categorized according to TLD, registrar, reseller, and privacy/proxy service, and geographic region in order to demonstrate whether some abusive maliciously registered second-level domains under each TLD remain registered longer than others before being taken down.

The report will also include:

1. An analysis of the time-to-live of domain names involved in abuse, subdivided according to "maliciously registered" versus "compromised" domains.
2. An analysis of the effects of DNSSEC deployment on the rates of abusive activities heretofore described.
3. An analysis whose timeframe incorporates the actual dates at which domain names for each new gTLD could resolve, distinguishing the sunrise period from general availability to capture the time frames in which abusive activity is most likely to occur (i.e., following the release of a domain name for general availability).

This comprehensive analysis will enable the CCTRT to determine abuse rate correlations between registries and registrars, gTLD zones, and, to the extent applicable, corresponding safeguards. This research will also serve as a baseline for future CCTRTs and other Review Teams. Draft results will be available to the CCTRT by June 2017.

[247] ICANN, *Request for Proposal*.

Impact of Safeguards

Background on Safeguards

A key distinguishing feature of the New gTLD Program was the advent of additional safeguards aimed at protecting the integrity of the Domain Name System. The Government Advisory Committee (GAC) greatly influenced the development and adoption of many of the safeguards. In its Beijing Communiqué, the GAC advised that the safeguards proposed be subject to contractual oversight by ICANN and many have been implemented via contract provisions in the standard Registry and Registrar Agreements required for all new gTLDs[248]. However, a 2015 Review on the Effectiveness of GAC Advice observed that certain aspects of GAC advice were implemented differently from the way in which they were initially proposed.[249]

Commented [jD35]: Edit from **Brian** on April 26, 2017: ICANN, "Registry Agreement"; ICANN, "2013 RAA".

What follows is a discussion of certain key safeguards, focusing on the ability of the safeguard to be enforced via ICANN Contractual Compliance and/or to withstand challenges to potential enforcement.

Safeguards for All New gTLDs

WHOIS verification

The WHOIS verification requirements of the New gTLD Program sought to enhance abuse prevention and mitigation efforts[250]. The 2013 Registrar Agreement, which was mandatory for all new gTLD registrars, required adherence to the obligations specified in the WHOIS Accuracy Program Specification. Consequently, new gTLD registrars are required to engage in "reasonable and commercially practicable" WHOIS accuracy verification at the time of registration and periodic reverification thereafter.[251]

Commented [jD36]: Edit from **Brian** on April 26, 2017: ICANN (2009), Mitigating Malicious Conduct.

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[248] ICANN, "Registry Agreements," accessed 7 February 2017, https://www.icann.org/resources/pages/registries/registries-agreements-en; ICANN, "2013 Registrar Accreditation Agreement," accessed 7 February 2017, https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en.

[249] ICANN Governmental Advisory Committee (GAC) (2016), GAC Advice Effectiveness Review, accessed 7 February 2017, https://gacweb.icann.org/display/gacweb/GAC+Correspondence?preview=/27492514/41943089/Advice%20Effectiveness%20Review.pdf, pp. 14-15 regarding review of Beijing Advice. The review noted that "the more the advice seeks to impose restrictions, safeguards, checks, rules, verification, authentication, other minimum behavioral expectations or 'standard setting', the less likely it is that ICANN will accept and implement the advice in the precise way that the GAC have requested" (p. 2).

[250] ICANN (3 October 2009), Mitigating Malicious Conduct, accessed 9 November 2016, https://archive.icann.org/en/topics/new-gtlds/mitigating-malicious-conduct-04oct09-en.pdf

[251] ICANN, "2013 RAA," Section 3.7.8

Specifically, registrars are required to verify the syntax accuracy of registrant provided postal addresses, email addresses, and telephone numbers and verify the validity of the phone number and email address of the registrant. These provisions limit registrants to 7 days for correcting or updating such information and a total of 15 days for responding to inquiries by the registrar[252]. The consequences imposed by a registrar for a registrant's failure to comply include the suspension or cancellation of the domain name registration[253].

ICANN contractual compliance reports indicate that WHOIS related complaints comprise the largest category of complaints that they receive related to registrars[254]. For example, of the 41,790 total complaints received in 2014, 29,857 related to WHOIS[255] (most complained about lack of accuracy) (about 71%). Of the 48,106 total complaints received in 2015, 36,354 related to WHOIS (again, accuracy) (about 75%[256]).

These figures indicate that the WHOIS safeguards created contract obligations that were sufficiently specific, that violations were flagged and generated complaints subject to the ICANN compliance process[257].

Coinciding with the new WHOIS verification requirements and to improve the quality of contact data in the WHOIS, ICANN also implemented the WHOIS Accuracy Reporting System (ARS). The ARS is an effort to identify and report on accuracy in a systematic way. The GAC had advised that registry operators be required to maintain statistical reports of inaccurate WHOIS records[258]. ARS is an ICANN project taken in part to respond to this GAC-advised safeguard requiring documentation of WHOIS inaccuracies[259]. This

Commented [jD37]: Edit from **Brian** on April 26, 2017: ICANN Governmental Advisory Committee (11 April 2013), "Beijing Communiqué", accessed 7 February 2017, https://www.icann.org/en/system/files/correspondence/gac-to-board-18apr13-en.pdf; ICANN GAC, GAC Advice Effectiveness Review.

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[252] ICANN, "2013 RAA," Section 3.7.7.1 and 3.7.7.2
[253] ICANN, "2013 RAA," Section 3.7.7.2
[254] ICANN, "Contractual Compliance Reports," accessed 7 February 2017, https://www.icann.org/resources/pages/compliance-reports-2016-04-15-en
[255] ICANN, "Contractual Compliance Reports 2014," accessed 7 February 2017, https://www.icann.org/resources/pages/compliance-reports-2014-2015-01-30-en
[256] ICANN, "Contractual Compliance Reports 2015," accessed 7 February 2017, https://www.icann.org/resources/pages/compliance-reports-2015-04-15-en
[257] ICANN, "Competition, Consumer Trust, and Consumer Choice Metrics Reporting," accessed 7 February 2017, https://www.icann.org/resources/reviews/cct/metrics.
[258] ICANN Governmental Advisory Committee (11 April 2013), Beijing Communique, accessed 7 February 2017, https://www.icann.org/en/system/files/correspondence/gac-to-board-18apr13-en.pdf; ICANN GAC, *GAC Advice Effectiveness Review*.
[259] ICANN, "WHOIS Accuracy Reporting System (ARS) Project Information," accessed 7 February 2017, https://whois.icann.org/en/whoisars. The project aims to: proactively identify inaccurate gTLD

implementation shifted the responsibility from registry operators to ICANN[260]. Originally, the ARS contemplated three phases: syntax accuracy; operability accuracy; and identity validation[261].

Commented [jD38]: Edit from Brian on April 26, 2017: ICANN GAC (11 April 2013), "Beijing Communiqué"; ICANN GAC, GAC Advice Effectiveness Review.

To date, the ICANN ARS has only dealt with accuracy of syntax and operability (i.e., is the contact information in the correct format and is it an operating email, address or telephone number). The latest ARS Report was issued in June 2016 and contains findings on the accuracy of syntax (proper format) and operability (can it be used to communicate) of telephone numbers, postal address, and email address for a sample of both new and legacy gTLDs[262]. These findings indicate that new gTLDs have higher syntax accuracy ratings for email and telephone but lower syntax accuracy for postal address, when compared to legacy gTLDs[263].

ICANN has not committed to progressing to the identity validation phase (i.e., is the individual listed responsible for the domain[264]?). Hence, the current documentation effort will only detect syntax and operability issues but will not detect and therefore not document inaccurate identity[265].

Ultimately, specific language regarding WHOIS obligations and a detailed WHOIS specification may have promoted more focused efforts on combating abuse by creating clear obligations on registrars to gather specified information and hence promoting the ability to make actionable complaints to ICANN compliance.

Recommendations

Recommendation 17: ICANN should gather data to assess whether a significant percentage of WHOIS-related complaints applicable to new gTLDs relate to the accuracy of the identity of the registrant, and whether there are differences in behavior between new and legacy gTLDs. This data should include analysis of WHOIS accuracy complaints received by ICANN Contractual Compliance to identify the subject matter of the complaints (e.g., complaints about syntax, operability or identity) and compare the number of complaints about WHOIS syntax, operability or identity between legacy gTLDs and new gTLDs. ICANN should also identify other potential data sources of WHOIS complaints (registrars, registries, ISPs, etc.) and attempt to obtain anonymized data from these sources.

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registration data, explore the use of automated tools, forward potentially inaccurate records to registrars for action, and publicly report on the resulting actions to encourage improvement.

[260] ICANN GAC (11 April 2013), Beijing Communique; ICANN GAC, *GAC Advice Effectiveness Review*.

[261] ICANN, "WHOIS Accuracy Reporting System."

[262] ICANN, "WHOIS Accuracy Reporting System."

[263] Ibid.

[264] Ibid.

[265] Ibid.

Recommendation 18. Once gathered (see Recommendation 18), this data regarding WHOIS accuracy should be considered by the upcoming WHOIS Review Team to determine whether additional steps are needed to improve WHOIS accuracy, particularly whether to proceed with the identity phase of the Accuracy Reporting System (ARS) project. Future CCT Reviews may also consider making use of this data if a differential in behavior is identified between legacy and new gTLDs.

Rationale/related findings: WHOIS-related complaints are the largest category of complaints received by ICANN Contractual Compliance for registrars. However, it is unclear what aspect of WHOIS accuracy forms the basis of these complaints, or if the introduction of new gTLDs has had any effect on the accuracy of WHOIS data. Phase 1 of ICANN's ARS project analyzes the syntactic accuracy of WHOIS contact information and Phase 2 assesses the operability of the contact data in the WHOIS record. But there is currently no plan to proceed with Phase 3 of the ARS project, identity validation (is the contacted individual responsible for the domain?).

To: ICANN organization to gather required data, and to provide data to relevant review teams to consider the results and if warranted, to assess feasibility and desirability of moving to identity validation phase of WHOIS ARS project.

Prerequisite or Priority Level: Medium

Consensus within team: Yes

Mitigating Abusive Activity

The Base Registry Agreement required new gTLD registry operators to include provisions in their Registry-Registrar agreements that prohibited registrants from "distributing malware, abusively operating botnets, phishing, piracy, trademark or copyright infringement, fraudulent or deceptive practices, counterfeiting or otherwise engaging in activity contrary to applicable law, and providing (consistent with applicable law and any related procedures) consequences for such activities including suspension of the domain name."[266] By its terms, this safeguard is aimed at mitigating abusive activity. This provision was incorporated into the mandatory public interest commitments (PICs) section of the Registry agreement.

Notably, the plain language of the safeguard does not obligate the registry operator to monitor and enforce this provision beyond requiring the inclusion of the provision in the downstream Registrar–

[266] ICANN, "Registry Agreement," Specification 11, 3(a).

Registrant agreement. ICANN has concluded that 99% of new gTLD registry operators had complied with the obligation to include this language in their Registry-Registrar agreements by the end of 2014[267].

Complementing the prohibited use provisions, new gTLD registrars were bound by the 2013 RAA, which imposed on registrars a duty to promptly "investigate and respond appropriately to any reports of abuse[268]." Subsequently, ICANN received abuse complaints in 2014, 2015, and 2016[269]. Abuse complaints are typically higher for registrars than for registries. In 2015, ICANN received 438 abuse complaints related to registrars[270]. These complaints included both legacy and new gTLDs. ICANN noted that these complaints involved in part, "Registrars not taking reasonable and prompt steps to respond to appropriately to reports of abuse, which at a minimum should be to forward valid complaints to the registrants[271]." ICANN's 2015 audit of registrars under the 2013 RAA indicated that 74% of the registrars that were audited had deficiencies related to the RAA contract provisions requiring a Registrar Abuse Contact and a duty to investigate complaints of abuse[272]. ICANN's 2016 audit of registrars showed a deficiency rate of 60% related to this same contract provision[273]. These figures indicate that the Mitigating Abuse Safeguard is the subject of complaints and the ICANN compliance process[274].

It is not clear whether these safeguards have had an impact on mitigating abuse. It is also not clear what constitutes "reasonable and prompt steps to respond to appropriately to reports of abuse."

Recommendation 19: Repeat data-gathering efforts that compare rates of abuse in domains operating under new Registry Agreement and Registrar Agreements to legacy gTLDs as future review teams deem

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[267] ICANN (2015), ICANN Contractual Compliance 2014 Annual Report, accessed 7 February 2017, https://www.icann.org/en/system/files/files/annual-2014-13feb15-en.pdf, p. 13.
[268] ICANN, "2013 RAA," 3.18.
[269] ICANN, "Contractual Compliance Reports 2014" and ICANN, "Contractual Compliance Reports 2015." Quarterly reports are available as well on their year's respective pages.
[270] ICANN (2016), ICANN Contractual Compliance 2015 Annual Report, accessed 7 February 2017, https://www.icann.org/en/system/files/files/annual-2015-27jan16-en.pdf
[271] Ibid.
[272] ICANN, Contractual Compliance September 2015 Round Audit Report, accessed 7 February 2017, https://www.icann.org/en/system/files/files/compliance-registrar-audit-report-2015-06jul16-en.pdf
[273] ICANN, Contractual Compliance May 2016 Round Audit Report, accessed 7 February 2017, https://www.icann.org/en/system/files/files/compliance-registrar-audit-report-2016-16nov16-en.pdf
[274] The effectiveness of this safeguard as well as ICANN Compliance's enforcement it has been the topic of Congressional Testimony. See Senate Committee on the Judiciary Subcommittee on Oversight, Agency Action, Federal Rights and Federal Courts ("Protecting Internet Freedom: Implications of Ending U.S. Oversight of the Internet," written statement of John C. Horton, President and CEO, Legitscript, 14 September 2016), https://www.judiciary.senate.gov/imo/media/doc/09-14-16%20Horton%20Testimony.pdf. Mr. Horton argues that ICANN Compliance efforts regarding registrars that allegedly failed to investigate and respond to complaints that domain names were being used to facilitate illegal activity were ineffective and lacked transparency.

necessary. Although we recommend a periodic data-gathering exercise, we anticipate that these studies will change over time as a result of input from the community and future review teams.

Rationale/related findings: In order to better measure new gTLDs' ability to mitigate abusive activity, data related to abuse rates in new gTLDs should be gathered and analyzed on a regular basis. The data should be reviewed by both the ICANN organization and be made available to policymaking bodies and future review teams. The CCT Review Team has commissioned a study on this topic to serve as a baseline for future review teams and will report findings based on this study in our final report. This baseline will serve as a basis to compare future rates of abuse using the same methodology, which will work to support future hypothesis formulation and testing on potential causal factors that explain the variation in rates of abuse in TLDs.

To: ICANN organization

Prerequisite or Priority Level: High

Consensus within team: Yes

Security Checks

Another mandatory PIC that is included in the new gTLD Registry Agreement required that registry operators "periodically conduct a technical analysis to assess whether domains in the TLD are being used to perpetrate security threats, such as pharming, phishing, malware, and botnets[275]." Furthermore, this safeguard obligated registry operators to maintain statistical reports on such threats and mitigation efforts, and to make them available to ICANN upon request[276]. This safeguard was intended to enhance efforts to fight DNS abuse[277].

Commented [jD39]: Edit from **Brian** on April 26, 2017: ICANN (2009), Mitigating Malicious Conduct.

GAC advice had also recommended an enforcement mechanism that called for a registry operator to notify a registrar if the detected threats pose an actual risk of harm and provided for suspension of a domain name until a matter is resolved if the registrar fails to act[278]. However, ICANN reported community concerns about the timing, cost, and scope of conducting security checks for threats[279]. Hence, the safeguard implementation provided "general guidelines for what registry operators must do, but omits the specific details from the contractual language to allow for the future development and

Commented [jD40]: Edit from **Brian** on April 26, 2017: ICANN GAC (2013), "Beijing Communiqué".

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[275] ICANN, "Registry Agreement," Specification 11, 3(b).
[276] Ibid.
[277] ICANN (2009), Mitigating Malicious Conduct, accessed 9 November 2016, https://archive.icann.org/en/topics/new-gtlds/mitigating-malicious-conduct-04oct09-en.pdf
[278] ICANN GAC (2013), Beijing Communique.
[279] ICANN, "Safeguards Applicable to All gTLDs," accessed 7 February 2017, https://features.icann.org/safeguards-applicable-all-new-gtlds.

evolution of the parameters for conducting security checks[280]." Nevertheless, as implemented by ICANN, the safeguard lacks obligations on either notification to the registrar or how to respond to security threats.

The obligation to engage in security checks can be enforced, as implemented[281]. ICANN compliance reports engaging in proactive monitoring of this safeguard and determined for example, that 96% of registries were conducting security checks as per the contract[282]. Hence, the safeguard implementation provided "general guidelines for what registry operators must do, but omitted the specific details from the contractual language to allow for the future development and evolution of the parameters for conducting security checks[283]." Community discussions on how to develop a framework for registry operators to conduct periodic security checks and respond to identified security threats are currently underway[284].

Commented [jD41]: Edit from **Brian** on April 26, 2017: ICANN, "Safeguards Applicable to All gTLDs".

Recommendation 20: The next CCTRT should review the proposed Registry Operator Framework when completed and assess whether the framework is a sufficiently clear and effective mechanism to mitigate abuse by providing for specified actions in response to security threats.

Rationale/related findings: It is not clear whether the intended goal of the security checks safeguard – to enhance efforts to fight DNS abuse – has been met. The community will be better positioned to evaluate the effectiveness of this safeguard once a specific framework has been proposed that specifies how registry operators should respond to security threats.

To: Future CCT Review Teams

Prerequisite or Priority Level: Medium

Consensus within Team: Yes

Making and Handling Complaints

The Base Registry Agreement for new gTLDs required registry operators to "take reasonable steps to investigate and respond to any reports from law enforcement and governmental and quasi-governmental agencies of illegal conduct in connection with the use of the TLD" with the caveat that

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[280] Ibid.
[281] ICANN GAC, *GAC Advice Effectiveness Review*, pp. 12-13. The Review questioned the effectiveness of this safeguard, noting that "risks may be identified but not necessarily acted on."
[282] ICANN (2015), *ICANN Contractual Compliance 2014 Annual Report*, p. 1.
[283] ICANN, "Safeguards Applicable to All gTLDs" accessed 7 February 2017, https://features.icann.org/safeguards-applicable-all-new-gtlds
[284] ICANN, "Project: Framework for Handling Security Complaints," accessed 7 February 2017, https://myicann.org/plan/project/54398430005f4feb0a04e53e8afaa73b

they would "not be required to take any action in contravention of applicable law.[285]" Furthermore, new gTLD registry operators were obligated to post abuse contact details on their websites and to notify ICANN of any changes to contact information[286].

These safeguards, like others, were aimed at enabling more focused mitigation of DNS abuse[287] and created a duty for registry operators to investigate and respond to complaints from government agencies but not the public. GAC advice did not propose such a restriction[288].

Data from Nielsen's Consumer surveys indicate that many consumers remain unaware of to whom to report abuse. Specifically, 31% overall "don't know" who to report site abuse to, 31% overall would report abuse to a consumer protection agency, 30% overall would report abuse to local police, 24% overall would report abuse to website owner or operator, and 11% overall would report abuse to ICANN[289].

The GAC questioned the specifics of implementation, specifically asking "what constitutes reasonable steps" to investigate and respond to complaints and noting that the effectiveness of this safeguard depends on whether registry operators "have a responsibility to respond to complaints from sources other than governments or law enforcement agencies[290]." ICANN's 2014 Contractual Compliance report noted that registry operators "not publishing the email address and primary contact for reports by mail" and registry operators "not responding in a timely matter" were a common contractual compliance issue regarding publishing abuse contact information[291]. Hence, this safeguard can be the subject of complaints and the ICANN compliance process.

The obligation to have mechanisms to respond to complaints likely assists registries to investigate and possibly combat abuse and may help protect the public by providing information about harmful practices. However, questions remain about the scope of registry operators' response under this

Commented [jD42]: Edit from **Brian** on April 26, 2017: ICANN, Mitigating Malicious Conduct.

Commented [jD43]: Edit from **Brian** on April 26, 2017: ICANN GAC (11 April 2013), "Beijing Communiqué"; ICANN Governmental Advisory Committee (GAC) (11 February 2015), "Singapore Communiqué", accessed 7 February 2017, https://www.icann.org/en/system/files/correspondence/gac-to-board-11feb15-en.pdf. The Singapore Communiqué questions what mechanisms could be used by victims (in addition to law enforcement) to report abuse to registry operators and what constitutes "reasonable steps" to investigate and respond to reports from law enforcement or other governmental bodies.

Commented [jD44]: Edit from **Brian** on April 26, 2017: Nielsen, Consumer Research Wave 2 (2016), pp. 88, 102.

Commented [jD45]: Edit from **Brian** on April 26, 2017: ICANN GAC (11 February 2015), Singapore Communiqué, p. 10 regarding safeguard 5.; ICANN GAC, GAC Advice Effectiveness Review, p.13.

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[285] ICANN, "Registry Agreement," Section 2.8.
[286] ICANN, "Registry Agreement," Specification 6, Section 4.1.
[287] ICANN, Malicious Conduct
[288] ICANN GAC (11 April 2013), Beijing Communique; ICANN Governmental Advisory Committee (GAC) (11 February 2015), Singapore Communique, accessed 7 February 2017, https://www.icann.org/en/system/files/correspondence/gac-to-board-11feb15-en.pdf. The Singapore Communique questions what mechanisms could be used by victims (in addition to law enforcement) to report abuse to registry operators and what constitutes "reasonable steps" to investigate and respond to reports from law enforcement or other governmental bodies.
[289] Nielsen, ICANN Global Consumer Research Wave 2 (June 2016), accessed 7 February 2017, https://www.icann.org/news/announcement-2-2016-06-23-en, pp. 88, 102.
[290] ICANN GAC (11 February 2015), Singapore Communique, p. 10 regarding safeguard 5.; ICANN GAC, GAC Advice Effectiveness Review, p.13.
[291] Ibid., p. 14.

safeguard both as to its duty to investigate and respond to complaints from law enforcement and its responsibility to respond to complaints from the public.

Recommendations

Recommendation 21: Assess whether mechanisms to report and handle complaints have led to more focused efforts to combat abuse by determining (1) the volume of reports of illegal conduct in connection with the use of the TLD that registries receive from governmental and quasi-governmental agencies and the volume of inquires that registries receive from the public related to malicious conduct in the TLD and (2) what actions registries have taken to respond to complaints of illegal or malicious conduct in connection with the use of the TLD. Such efforts could include surveys, focus groups or community discussions. If these methods proved ineffective, consideration could be given to amending future standard Registry Agreements to require registry operators to provide this information to ICANN. Once this information is gathered, future review teams should consider recommendations for appropriate follow up measures.

Recommendation 22. Assess whether more efforts are needed to publicize contact points where complaints that involve abuse or illegal behavior within a TLD should be directed.

Rationale/related findings: Although the safeguards regarding making and handling complaints have been implemented, it is unclear: (1) whether either law enforcement or the public is sufficiently aware that these complaint mechanisms exist; (2) how frequently these channels are used by the public and law enforcement to notify registries of illegal or abusive behavior and (3) what impact these safeguards have had on their intended goal of mitigating DNS abuse. Hence our recommendations relate to improved data gathering to inform future efforts on combatting abuse within gTLDs.

To: ICANN organization and future CCT Review Teams

Prerequisite or Priority Level: Medium

Consensus within Team: Yes

Safeguards for Sensitive and Regulated Strings

The GAC identified a nonexhaustive group of nearly 200 strings (Category 1) that raised consumer protection concerns, contained sensitive strings, or strings in regulated markets and advised that five safeguards should apply to these Category 1 strings. The GAC explained that strings linked to "regulated or professional sectors should operate in a way that is consistent with applicable laws" and observed that the identified strings were "likely to invoke a level of implied trust from consumers, and carry

higher levels of risk associated with consumer harm[292]." During implementation, however, ICANN included only a subset of these GAC-identified strings within the Category 1 safeguard protections[293]. In addition, during implementation, ICANN included only three of the five GAC-recommended safeguards to its selected subset of Category 1 strings in regulated markets[294].

As implemented, these safeguards took the form of downstream contract requirements contained in the Public Interest Commitments Specification of the Registry Agreement. Specifically, the safeguards required registry operators to obligate registrars vis-à-vis the Registry-Registrar Agreement to include certain provisions in their Registration Agreements with registrants.

The requirements for sensitive strings and those in regulated markets included provisions requiring registrants to comply with all applicable laws[295]. Another provision emphasized that this obligation includes "those [laws] that relate to privacy, data collection, consumer protection (including in relation to misleading and deceptive conduct), fair lending, debt collection, organic farming, disclosure of data, and financial disclosures[296]." Furthermore, specific provisions detailed requirements for registrants handling sensitive information, such as health or financial data, to "implement reasonable and appropriate security measures commensurate with the offering of those services, as defined by applicable law[297]."

It is difficult to determine whether these safeguards have been the subject of complaints to ICANN contract compliance because the categories of complaints identified in ICANN's Compliance Reports do not provide this level of detail. That is, the reported ICANN complaint categories for registries and registrars such as "PIC" (Public Interest Commitments) or "Abuse," do not contain sufficiently specific information to correlate complaints with specific safeguards. ICANN Compliance does report that it proactively monitored compliance with Specification 11, paragraph 3a that includes the obligation for

Commented [jD46]: Edit from **Brian** on April 26, 2017: ICANN GAC (11 April 2013), "Beijing Communiqué," p. 8.

Commented [jD47]: Edit from **Brian** on April 26, 2017: Ibid. Compare the Beijing Communiqué with ICANN's implementation framework for GAC Category 1 implementation advice: ICANN, "GAC Advice: Category 1 Safeguards," accessed 7 February 2017, https://newgtlds.icann.org/en/applicants/gac-advice/cat1-safeguards; and ICANN New gTLD Program Committee (NGPC) (5 February 2014), GAC Category 1 Safeguards: Annex 2: ICANN NGPC Resolution No. 2014.02.05.NG01, accessed 7 February 2017, https://www.icann.org/en/system/files/files/resolutions-new-gtld-annex-2-05feb14-en.pdf; October 29, 2013 letter Crocker to GAC Chair; September 2, 2014 letter Crocker to GAC Chair; and June 23, 2015 Crocker to GAC Chair.

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[292] ICANN GAC (11 April 2013), Beijing Communique, p. 8.
[293] Ibid. Compare the Beijing Communique with ICANN's implementation framework for GAC Category 1 implementation advice: ICANN, "GAC Advice: Category 1 Safeguards," accessed 7 February 2017, https://newgtlds.icann.org/en/applicants/gac-advice/cat1-safeguards; and ICANN New gTLD Program Committee (NGPC) (5 February 2014), GAC Category 1 Safeguards: Annex 2: ICANN NGPC Resolution No. 2014.02.05.NG01, accessed 7 February 2017, https://www.icann.org/en/system/files/files/resolutions-new-gtld-annex-2-05feb14-en.pdf; October 29, 2013 letter Crocker to GAC Chair; September 2, 2014 letter Crocker to GAC Chair; and June 23, 2015 Crocker to GAC Chair.
[294] Ibid. See also October 29, 2013 letter Crocker to GAC Chair; September 2, 2014 letter Crocker to GAC Chair.
[295] ICANN, "Registry Agreement," Specification 11, 3(f).
[296] ICANN, "GAC Advice: Category 1 Safeguards" and ICANN NGPC, Category 1 Safeguards.
[297] Ibid.

downstream contracts to include language requiring compliance with applicable laws, and determined that there was 99% compliance with this provision[298].

Recommendations

Recommendation 23. Include more detailed information on the subject matter of complaints in ICANN publicly available compliance reports. Specifically, more precise data on the subject matter of complaints, particularly (1) what type of law violation is being complained of and (2) an indication of whether complaints relate to the protection of sensitive health or financial information, would assist future Review Teams in their assessment of these safeguards. **Note:** A general recommendation for further transparency regarding the subject matter of complaints received by ICANN Contractual Compliance is set forth in Chapter V. Data-Driven Analysis: Recommendations for Additional Data Collection and Analysis.

Recommendation 24. Initiate discussions with relevant stakeholders to determine what constitutes reasonable and appropriate security measures commensurate with the offering of services that involve the gathering of sensitive health and financial information. Such a discussion could include identifying what falls within the categories of "sensitive health and financial information" and what metrics could be used to measure compliance with this safeguard.

Rationale/related findings: The lack of publicly available information about whether ICANN Contractual Compliance has received complaints related to the implemented Category 1 safeguards, and lack of a common framework to define sensitive information and identify what constitutes "reasonable and appropriate security measures" make it difficult to assess what impact this safeguard has had on mitigating risks to the public.

To: ICANN organization

Prerequisite or Priority Level: High

Consensus within Team: Yes

Safeguards for Highly Regulated Strings

The GAC advised that strings associated with market sectors that have clear and/or regulated entry requirements in multiple jurisdictions (such as: financial, gambling, professional services, environmental, health and fitness, corporate identifiers, and charity) should also receive protections in the form of three additional safeguards requiring registry operators to verify and validate registrant's licenses or credentials, consult with authorities in case of doubt about the credentials, and conduct periodic post

[298] ICANN (2015), *ICANN Contractual Compliance 2014 Annual Report*, p.13.

registration checks to ensure the registrant's compliance[299]. The GAC explained that these strings may require such additional safeguards to address specific risks and to "bring registry policies in line with arrangements in place offline[300]." As implemented by ICANN, the safeguards applied to about 50 strings but received fewer protections than GAC had originally advised[301].

Commented [jD48]: Edit from Brian on April 26, 2017: ICANN GAC (11 April 2013), "Beijing Communiqué," p. pp. 8-10.

As with the other safeguards, many of these safeguards imposed downstream contract requirements upon registry operators to obligate registrars vis-à-vis the Registry-Registrar Agreement to include certain provisions in their Registration Agreements with registrants.

ICANN implemented several additional safeguards that applied to strings in highly regulated markets related to relationships with regulatory and industry bodies, providing contact information to report complaints, and screening for proper credentials for strings in highly regulated markets[302].

Specifically, registry operators were obligated to establish relationships with the relevant regulatory and industry bodies to mitigate risks of illegal activity[303]. Moreover, the standard contracts needed to include provisions that would require registrants to have a single point of contact for complaint reporting and contact information for relevant regulatory bodies[304].

Regarding the requirement to establish relationships with relevant regulatory/industry bodies, implementation of this provision appears to be satisfied by the mere issuing of an invitation to have a relationship[305]. This implementation may reflect the practical challenges involved with mandating a

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[299] ICANN GAC (11 April 2013), Beijing Communique, p. pp. 8-10.
[300] Ibid, p. 10.
[301] Ibid. Compare to ICANN NGPC, Category 1 Safeguards. ICANN indicated its rationale for changes to the GAC safeguard advice in its October 29, 2013 letter to the GAC Chair (expressing concerns that implementation could discriminate against registrants from developing countries that lacked regulatory bodies or databases which the registry operators could work with to verify credentials). See also ICANN GAC, GAC Advice Effectiveness Review, Appendix 1 regarding Beijing Advice. See Category 1 Consumer Safeguards at pp. 14-15 which describes ICANN's implementation of its Category 1 safeguards 6, 7, 8 as "substantially watered down" and the June 23, 2015 letter Crocker to GAC Chair.
[302] The GAC had advised that certain safeguards apply to all Category 1 strings. ICANN's implementation applied the recommended safeguards regarding establishing relationships with regulatory bodies and providing contact information to report complaints to only specified new gTLDs in the highly-regulated category. ICANN GAC (11 April 2013), Beijing Communique, p. pp. 8-10. Compare to ICANN NGPC, Category 1 Safeguards.
[303] ICANN NGPC, "Category 1 Safeguards".
[304] Ibid.
[305] Base Registry Agreement for highly regulated strings. "Registry operators will proactively create a clear pathway for the creation of a working relationship with the relevant regulatory or industry self--

relationship with a third-party organization. In terms of effectiveness, more information is needed on registry efforts to comply with this safeguard. Regarding the requirement for registrants to provide contact information for complaints and information about relevant regulatory bodies, a key question would be how easy it is for the public to find information on a website regarding contact information for communicating complaints both to those responsible for the domain and applicable government agencies or regulatory bodies.

The final three safeguards related to the credentialing that registrants possessed relating to strings in highly regulated markets. The GAC had recommended that registry operators (1) verify and validate registrants' credentials "at the time of registration," (2) consult with authorities in case of doubt about the credentials and (3) conduct periodic post registration checks to ensure registrants' validity and compliance[306]. As implemented by ICANN, registry operators were required to ensure that registrars included in their agreement with registrants a provision requiring a representation that the "registrant possesses any necessary authorizations, charters, licenses and/or other related credentials for participation in the sector associated with the TLD[307]." Registry operators were obligated to investigate the authenticity of a registrant's credentials if they received a complaint casting doubt on them[308]. Finally, registrars, vis-à-vis the Registry-Registrar Agreement, were obligated to require their registrants to report "any material changes to the validity" of their credentials[309].

These provisions were designed to mitigate the higher levels of risks of abuse associated with strings in highly regulated industries, which are likely to invoke a higher level of trust to consumers[310]. The Nielsen Consumer End-User and Registrant Surveys indicated that consumers expect some restrictions on who can purchase domains within new gTLDs and that restrictions on who can purchase new gTLDs contribute to consumer trust[311]. GAC advice originally required registries to screen registrants for proper credentials or licenses at the time of registration to ensure that they are what they purport to be before they may do business with the public using the name of a regulated sector such as a bank or

Commented [jD49]: Edit from **Brian** on April 26, 2017: ICANN GAC (11 April 2013), "Beijing Communiqué" and ICANN Governmental Advisory Committee (GAC) (25 June 2014), "London Communiqué", accessed 7 February 2017, https://www.icann.org/en/system/files/correspondence/gac-to-board-25jun14-en.pdf.

Commented [jD50]: Edit from **Brian** on April 26, 2017: Nielsen, Consumer Research (2015), pp. 9, 25-26, 44; Nielsen, Consumer Research Wave 2 (2016), pp. 9, 13, 24-27, 35, 60-63, 65; Nielsen, Registrant Survey Wave 2 (2016) pp. 14, 18, 29, 67.

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regulatory bodies by publicizing a point of contact and inviting such bodies to establish a channel of communication. . ."

[306] ICANN NGPC, Category 1 Safeguards, paras. 6-8.

[307] Ibid., para. 6.

[308] Ibid., para. 7.

[309] Ibid., para. 8.

[310] ICANN GAC (11 April 2013), Beijing Communique and ICANN Governmental Advisory Committee (GAC) (25 June 2014), London Communique, accessed 7 February 2017, https://www.icann.org/en/system/files/correspondence/gac-to-board-25jun14-en.pdf.

[311] Nielsen, ICANN Global Consumer Research (April 2015), accessed 7 February 2017, https://www.icann.org/news/announcement-2015-05-29-en, pp. 9, 25-26, 44; Nielsen, ICANN Global Consumer Research Wave 2 (June 2016), accessed 7 February 2017, 9, 13, 24-27, 35, 60-63, 65. https://www.icann.org/news/announcement-2-2016-06-23-en; Nielsen, ICANN Global Registrant Survey Wave 2 (August 2016), accessed 7 February 2017, https://www.icann.org/news/announcement-2-2016-09-15-en pp. 14, 18, 29, 67.

pharmacy. As implemented by ICANN, registrants themselves were to self-report that they possessed the necessary credentials. The GAC indicated that the looser requirement that registrants provide some "representation" that they possess the appropriate credentials (e.g., as a bank, insurer, pharmacy, etc.) poses the risk of consumer fraud and potential harm because bad actors will not hesitate to make false representations about their credentials[312].

The ICANN Board indicated that its implementation approach resulted from concerns about the practical ability to implement these safeguards as advised because of challenges involved in verifying credentials of entities in multiple jurisdictions[313].

Recommendations

Recommendation 25. ICANN should perform a study on highly regulated new gTLDs to include the following elements: steps registry operators are taking to establish working relationships with relevant government or industry bodies;

Recommendation 26. the volume of complaints received by registrants from regulatory bodies and their standard practices to respond to those complaints;

Recommendation 27. assessment of a sample of domain websites within the highly regulated sector category to see whether contact information to file complaints is sufficiently easy to find;

Recommendation 28. assessment of whether restrictions regarding possessing necessary credentials are being enforced by auditing registrars and resellers offering the highly regulated TLDs (e.g., can an individual or entity without the proper credentials buy a highly regulated domain?);

Recommendation 29. determining the volume and subject matter of complaints regarding domains in highly regulated industries by seeking more detailed information from ICANN Contractual Compliance and registrars/resellers of highly regulated domains; and

Recommendation 30. comparing rates of abuse between those highly regulated gTLDs that have voluntarily agreed to verify and validate credentials to those highly regulated gTLDs that have not.

Rationale/related findings: Although ICANN has implemented certain safeguards applicable to domains for highly regulated strings, it is unclear whether and how contracted parties are complying with these safeguards. It is also not clear whether these safeguards have been effective in mitigating risks associated with domains in highly regulated markets.

To: ICANN organization

Commented [jD51]: Edit from **Brian** on April 26, 2017: ICANN GAC (25 June 2014), "London Communiqué," p. 10; ICANN GAC (11 February 2015), "Singapore Communiqué," pp. 4, 10. ICANN Governmental Advisory Committee (GAC) (15 October 2014), "Los Angeles Communiqué," accessed 7 February 2017, https://www.icann.org/en/system/files/correspondence/gac-to-board-15oct14-en.pdf, p.5. The Communiqués all question ICANN's failure to implement the GAC's advice regarding verification and validation of credentials for strings in highly regulated markets.

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[312] ICANN GAC (25 June 2014), London Communique, p. 10; ICANN GAC (11 February 2015), Singapore Communique, pp. 4, 10. ICANN Governmental Advisory Committee (GAC) (15 October 2014), Los Angeles Communique, accessed 7 February 2017, https://www.icann.org/en/system/files/correspondence/gac-to-board-15oct14-en.pdf, p.5. The Communiques all question ICANN's failure to implement the GAC's advice regarding verification and validation of credentials for strings in highly regulated markets.

[313] See e.g. Board Chair correspondence to GAC Chair , October 29, 2013 and; Sept. 2, 2014.

Prerequisite or Priority Level: High

Consensus within Team: Yes

Special Safeguards Related to New gTLDs with Inherent Governmental Functions and Cyberbullying

The Base Registry Agreement included provisions for operators of new gTLDs with inherent governmental functions, such as .army, .navy, and .airforce, to mandate that their registrars to ensure that their registrants "take reasonable steps to avoid misrepresenting or falsely implying" that the registrant was associated with a governmental authority when such a relationship did not exist[314].

Another safeguard was related to cyberbullying and harassment and applied to the .fail, .gripe, .sucks, and .wtf gTLDs. This provision required registry operators to "develop and publish registration policies to minimize the risk of cyber bullying and/or harassment[315]."

It is not clear whether failure to comply with these safeguards has generated complaints. In addition, as advised and implemented, neither safeguard contains consequences for failure to comply, raising questions about their effectiveness.

Recommendations

Recommendation 31. Determine whether ICANN Contractual Compliance has received complaints for a registry operator's failure to comply with either the safeguard related to gTLDs with inherent governmental functions or the safeguard related to cyberbullying.

Recommendation 32. Survey registries to determine how they enforce these safeguards.

Rationale/related findings: The lack of information about whether ICANN Contractual Compliance or registries have received complaints related to these safeguards and lack of consequences for failure to comply with these safeguards make it difficult to assess their effectiveness in mitigating the risks they were intended to address, **Note:** A general recommendation for further transparency regarding the subject matter of complaints received by ICANN Contractual Compliance is set forth in Chapter V. Data-Driven Analysis: Recommendations for Additional Data Collection and Analysis.

To: ICANN organization

Prerequisite or Priority Level: Low

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[314] ICANN NGPC, Category 1 Safeguards.
[315] Ibid.

Consensus within Team: Yes

Restricted Registration Policies

ICANN implemented safeguards applicable to restricted registration policies. In its Category 2 safeguard advice on restricted registration policies, the GAC noted that restricted access was "an exception to the general rule that the gTLD domain name space is operated in an open manner[316]." ICANN implemented these recommendations by incorporating provisions into the Base Registry Agreement to (1) mandate that registries operate in "a transparent manner consistent with general principles of openness and nondiscrimination by establishing, publishing and adhering to clear registration policies[317]" and (2) prevent "Generic String" registry operators from restricting registration eligibility to a "single person or entity and/or that person's or entity's 'Affiliates[318]'." The GAC had originally advised to ensure that registration restrictions were appropriate for risks associated with particular gTLDs[319]. Subsequent GAC advice reflects ongoing concerns about whether restricted registration policies could lead to undue preferences[320].

The ICANN Global surveys indicated that the public expects some restrictions about who can purchase domain names and trusts that restrictions will be enforced[321]. The survey results also indicated that the presence of such restrictions contributed to consumer trust[322]. An upcoming study on DNS Abuse may provide information that correlates the presence or absence of registration restrictions with rates of DNS abuse.

Commented [jD52]: Edit from **Brian** on April 26, 2017: ICANN GAC (11 April 2013), "Beijing Communiqué," Annex 1, pp. 10-11 (Category 2 Safeguards).

Commented [jD53]: Edit from **Brian** on April 26, 2017: ICANN GAC (11 April 2013), "Beijing Communiqué," Annex 1, pp. 10-11 (Category 2 Safeguards).

Commented [jD54]: Edit from **Brian** on April 26, 2017: ICANN GAC (11 April 2013), "Beijing Communiqué"; ICANN GAC (25 June 2014), London Communiqué; ICANN (GAC) (15 October 2014), "Los Angeles Communiqué"; ICANN Governmental Advisory Committee (GAC) (24 June 2015), "Buenos Aires Communiqué," accessed 7 February 2017, https://www.icann.org/news/announcement-2-2015-06-24-en. These Communiqués address the implementation of the GAC Category 2 safeguard advice: "The NGPC should reconsider its position, particularly since the GAC has clearly advised that it does not believe the current requirements in Specification 11 actually meet either the spirit or the intent of the GAC's advice".

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[316] ICANN GAC (11 April 2013), Beijing Communique, Annex 1, pp. 10-11 (Category 2 Safeguards).
[317] ICANN NGPC Resolutions 2013.06.25.NG04 - 2013.06.25.NG05 - 2013.06.205.NG06, "Category 2 Safeguard Advice re Restricted and Exclusive Registry Access," accessed 7 February 2017, https://features.icann.org/category-2-safeguard-advice-re-restricted-and-exclusive-registry-access and "Annex I," accessed 7 February 2017, https://www.icann.org/en/system/files/files/resolutions-new-gtld-annex-i-agenda-2c-25jun13-en.pdf
[318] Ibid.
[319] ICANN GAC (11 April 2013), Beijing Communique, Annex 1, pp. 10-11 (Category 2 Safeguards).
[320] ICANN GAC (11 April 2013), Beijing Communique; ICANN GAC (25 June 2014), London Communique; ICANN (GAC) (15 October 2014), Los Angeles Communique; ICANN Governmental Advisory Committee (GAC) (24 June 2015), Buenos Aires Communique, accessed 7 February 2017, https://www.icann.org/news/announcement-2-2015-06-24-en. These Communiques address the implementation of the GAC Category 2 safeguard advice: "The NGPC should reconsider its position, particularly since the GAC has clearly advised that it does not believe the current requirements in Specification 11 actually meet either the spirit or the intent of the GAC's advice".
[321] Nielsen, *Consumer Research Wave 2* (2016), pp.9, 13, 26-27, 65; Nielsen, *Registrant Survey Wave 2* (2016), pp. 14, 18, 30, 68.
[322] Nielsen, *Consumer Research (2015)*, pp. .9, 26; Nielsen, *Consumer Research Wave 2* (2016), pp. 9, 13, 26.

Recommendations

Recommendation 33. Collect data comparing subjective and objective trustworthiness of new gTLDs with restrictions on registration, to new gTLDs with few or no restrictions.

Recommendation 34. Repeat and refine the DNS Abuse Study to determine whether the presence of additional registration restrictions correlate to a decrease in abuse in new gTLDs, and as compared to new gTLDs that lack registration restrictions, and as compared to legacy gTLDs.

Recommendation 35. Collect data on costs and benefits of implementing various registration restrictions, including the impact on compliance costs and costs for registries, registrars and registrants. One source of this data might be existing gTLDs (for example, for verification and validation restrictions, we could look to those new gTLDs that have voluntarily included verification and validation requirements to get a sense of the costs involved).

Recommendation 36. Gather public comments on the impact of new gTLD registration restrictions on competition to include whether restrictions have created undue preferences.

Rationale/related findings: The Nielsen surveys indicated a positive relationship between registration restrictions and trustworthiness of a domain. However, in addition to benefits, registration restrictions may also impact competition. More information is needed to assess whether this safeguard has met its intended goal in a manner that balances the benefits to the public in terms of trustworthiness and competition.

To: ICANN organization, PDP Working Group, and future CCT Review Teams

Prerequisite or Priority Level: High

Consensus within Team: Yes

Public Interest Commitments

Background of Public Interest Commitments

One safeguard mechanism unique to the New gTLD Program was the incorporation of mandatory and voluntary Public Interest Commitments (PICs) into registry applications and, ultimately, registry agreements. The advent of these binding and enforceable contractual obligations stemmed from GAC concerns about how commitments contained in new gTLD applications would be enforced by ICANN. Consequently, the GAC advised that all commitments and objectives set forth in new gTLD applications (or amendments thereto) should be "transformed into binding contract obligation subject to compliance oversight by ICANN." In its Toronto Communique, the GAC also signaled that it had a variety of public policy concerns about the new gTLD applications, including issues involving: consumer protection,

strings related to regulated market sectors such as financial, health and charities, intellectual property issues, and the relationship between new gTLDs and applicable legislation.[323]

On February 5, 2013, ICANN released a revised draft registry agreement that incorporated PICs for new gTLD applicants.[324] The draft proposed some mandatory requirements but also allowed for the adoption of voluntary commitments by applicants. The timing of the announcement effectively gave applicants less than 30 days to decide whether to include voluntary PICs in their applications.

Later in 2013, the GAC followed up in Beijing by issuing safeguard advice with mandatory proposals specific to all new gTLDs, regulated gTLDs, and highly regulated gTLDs.[325] Other stakeholders such as the Business Constituency and At Large Advisory Committee also weighed in on the proposals.[326] Thereafter, ICANN modified the GAC safeguard advice and elected to implement the modified safeguards in the PICs of the base registry agreement for new gTLDs.[327]

On 5 February 2014, the New gTLD Program Committee adopted GAC Category 1 Safeguard Advice, mandating that new registry operators include four mandatory PICs in their registry agreements and additional mandatory PICs for regulated and highly regulated gTLD operators.[328]Moreover, the Applicant

Commented [jD55]: Edit from **Brian** on April 26, 2017: ICANN Governmental Advisory Committee (GAC) (17 October 2012), "Toronto Communiqué," accessed 3 February 2017, https://gacweb.icann.org/download/attachments/27132070/FINAL_Toronto_Communique_20121017.pdf?version=1&modificationDate=1354149148000&api=v2

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[323]ICANN (17 October 2012), *Governmental Advisory Committee Communiqué – Toronto, Canada,* accessed 3 February 2017, https://gacweb.icann.org/download/attachments/27132070/FINAL_Toronto_Communique_20121017.pdf?version=1& modificationDate=1354149148000&api=v2

[324] ICANN (5 February 2013), *Revised New gTLD Registry Agreement Including Additional Public Interest Commitments Specification,* accessed 3 February 2017, https://www.icann.org/resources/pages/base-agreement-2013-02-05-en

[325] ICANN (11 April 2013), *Governmental Advisory Committee Communiqué – Beijing, People's Republic of China,* accessed 3 February 2017, https://gacweb.icann.org/download/attachments/28278854/Beijing%20Communique%20april2013_Final.pdf?version=1&modificationDate=1367607354000&api=v2

[326] For a brief summary of BC and ALAC correspondence, please see:
ICANN (16 October 2014), *At-Large Advisory Committee ALAC Statement on the Public Interest Commitments,* accessed 3 February 2017, http://atlarge.icann.org/correspondence/correspondence-16oct14-en.htm
ICANN (9 December 2014), *Business Constituency Comment on Safeguards for Category 1 gTLDs,* accessed 3 February 2017, http://www.bizconst.org/assets/docs/positions-statements/bc-comment-on-safeguards-for-category-1-gtlds.pdf

[327] ICANN (29 October 2013), *Letter from Steve Crocker to Heather Dryden Re: NGPC Consideration of GAC Category 1 and Category 2 Safeguard Advice,* accessed 3 February 2017, https://www.icann.org/en/system/files/correspondence/crocker-to-dryden-3-29oct13-en.pdf

[328] Specifically, **all** new gTLDs had to incorporate four specific safeguards involving: WHOIS verification and documentation and checks and of same; Mitigating abusive activity; Security checks; and Making and Handling Complaints.See ICANN (25 June 2013), *Annex I NGPC Proposal for Implementation of GAC*

Guidebook included provisions requiring that community applicants create enforceable provisions designed to ensure conformity to the stated purpose of the TLD.[329]

Adoption Rate of Voluntary PICs

Out of 1,930 new gTLD applications, 513 included voluntary PICs.[330] Seventeen of the 29 highly regulated gTLD applications included voluntary PICs, which were ultimately included in their registry agreements.[331] Seventy of the 116 registry agreements[332] for regulated gTLDs included voluntary PICs.[333]

Safeguards Applicable to All New gTLDs, accessed 3 February 2017, https://www.icann.org/en/system/files/files/resolutions-new-gtld-annex-i-agenda-2b-25jun13-en.pdf
In addition, **regulated** new gTLDs had to also incorporate three safeguards regarding Compliance with applicable laws and reasonable/appropriate security measures for collection of sensitive financial/health information. See ICANN (5 February 2014), *Annex 2 - ICANN NGPC Resolution NO. 2014.02.05.NG01,* accessed 3 February 2017, https://www.icann.org/en/system/files/files/resolutions-new-gtld-annex-2-05feb14-en.pdf
Furthermore, **highly regulated** had to also incorporate five safeguards regarding (1) establishing relationship with relevant regulatory/industry bodies to mitigate risks of illegal activity; (2) requiring registrants to have a single point of contact for complaint reporting and contact info for relevant regulatory bodies; (3) verification and validation of credentials. See ICANN, "*Annex 2 - ICANN NGPC Resolution NO. 2014.02.05.NG01*."

[329] Section 2.18 of the Applicant Handbook. Commitments made under this provision later became part of Specification 12 of the Registry Agreement.

[330] ICANN, "New gTLD Current Application Status," accessed 3 February 2017, https://gtldresult.icann.org/application-result/applicationstatus/viewstatus

[331] Donuts (.surgery, .dentist, .creditcard, .attorney, .lawyer, .doctor, .ltd, .sarl, .gmbh, .bingo, .university, .casino), Minds+Machines (.dds, .abogado), CUNA Performance Resources,LLC (.creditunion), Excellent First Limited (慈善 (xn--30rr7y) – Chinese for "charity"), mySRL GmbH (.srl).

[332] Based on data provided by ICANN staff on 21 October 2016. These included Donuts (.games, .clinic, .dental, .healthcare, .claims, .finance, .fund, .investments, .loans, .credit, .insure, .tax, .mortgage, .movie, .software, .video, .accountants, .gratis, .legal, .school , .schule , .toys, .care, .fitness, .capital, .cash, .exchange, .financial, .lease, .market, .money, .degree, .mba, .band, .digital, .associates, .fan, .discount, .sale, .media, .news, .pictures, .show, .theater, .tours, .vet, .engineering, .limited, .capital, .town, .city, .reisen), Big Room, Inc. (.eco), Afilias (.organic), DotHealth (.health), DotHIV gemeinnuetziger e.V. (.hiv), Stable Tone Limited (健康 (xn--nyqy26a) – Chinese for "healthy"), Medistry LLC (.med), Celebrate Broadway, Inc. (.broadway), Famous Four Media (.download, .loan, .accountant), Rightside (.gives, .engineer, .rip, .rehab), Minds+Machines (.law, .fit, .fashion), Foggy Way, LLC (.reise). The National Association of Real Estate Investment Trusts, Inc. (.reit) and European Broadcasting Union (EBU) (.radio) adopted Specification 12 Community Registration Policies.

[333] National Association of Boards of Pharmacy (.Pharmacy) adopted Specification 12 Community Registration Policies

Eleven of the regulated new gTLD registry operators, representing 69 regulated registries, incorporated voluntary PICs related to abuse or acceptable use into their registry agreements.[334] Five of the highly regulated new gTLD registry operators, representing 17 highly regulated registries, incorporated voluntary PICs related to abuse into their registry agreements.[335] Each of the top 30 new gTLDs registries that committed to voluntary PICs incorporated antiabuse provisions.[336]

Implementation of PICs

New gTLD applicants were permitted to incorporate voluntary PICs into Specification 11, Section 2 and Section 3 of their applications.[337] Commitments made in Section 2 were incorporated into Specification 11, Section 2 of the registry agreements, whereas those commitments made in Section 3 became part of Section 4 of the registry agreements. Other voluntary commitments took the form of Specification 12 Community Registration Policies, which predated the advent of voluntary PICs. Section 2.18 of the base Registry Agreement included in the Applicant Guidebook, was intended to incorporate by reference portions of new gTLD applications that related to community-based policies and procedures, as proposed by community applicants. Later, it was decided to incorporate the full text of those policies and procedures into the Registry Agreement as Specification 12 for transparency and clarity.

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[334] Based on data provided by ICANN staff on 21 October 2016. These included Donuts (.games, .clinic, .dental, .healthcare, .claims, .finance, .fund, .investments, .loans, .credit, .insure, .tax, .mortgage, .movie, .software, .video, .accountants, .gratis, .legal, .school , .schule , .toys, .care, .fitness, .capital, .cash, .exchange, .financial, .lease, .market, .money, .degree, .mba, .band, .digital, .associates, .fan, .discount, .sale, .media, .news, .pictures, .show, .theater, .tours, .vet, .engineering, .limited, .capital, .town, .city, .reisen), Big Room, Inc. (.eco), Afilias (.organic), DotHealth (.health), Stable Tone Limited (健康 (xn--nyqy26a) – Chinese for "healthy"), Medistry LLC (.med), Celebrate Broadway, Inc. (.broadway), Famous Four Media (.download, .loan, .accountant), Rightside (.gives, .engineer, .rip, .rehab), Minds+Machines (.law, .fit, .fashion), Foggy Way, LLC (.reise). The National Association of Real Estate Investment Trusts, Inc. (.reit) and European Broadcasting Union (EBU) (.radio) adopted Specification 12 Community Registration Policies.

[335] Donuts (.surgery, .dentist, .creditcard, .attorney, .lawyer, .doctor, .ltd, .sarl, .gmbh, .bingo, .university, .casino), Minds+Machines (.dds, .abogado), CUNA Performance Resources,LLC (.creditunion), Excellent First Limited (慈善 (xn--30rr7y) – Chinese for “charity”), mySRL GmbH (.srl).

[336] Based on data available to ICANN staff on 12 September 2016, these included: Famous Four (.win, .loan, .date, .racing, .download, .accountant), Minds+Machines (.vip, .bayern, .work), Donuts (.news, .rocks, .guru, .email, .solutions, .photography, .company, .tips, .center, .city, .world, .expert, .media, .today, .live, .life), Rightside (.pub, .ninja), Dot London Domains Limited (.london), Infibeam Incorporation Limited (.ooo), and Over Corner, LLC/Donuts (.ltd). Of these gTLDs, .accountant , .city, .download, .loan, .news, and .media are gTLDs designated as GAC Category 1 strings (Regulated Sectors/Open Entry Requirements in Multiple jurisdictions. One gTLD, .ltd is designated as a Highly Regulated sector/Closed Entry Requirements in Multiple Jurisdictions.

[337] ICANN, “Specification 11 Public Interest Commitments,” accessed 3 February 2017, https://newgtlds.icann.org/en/applicants/agb/base-agreement-spec-11-pic-19feb13-en.pdf

Commitments ultimately adopted into voluntary PICs ranged greatly in topic area and substance. Some of the voluntary PICs used language resembling other obligations[338], such as those found in the applicant guidebook or elsewhere in the registry agreement, while many articulated unique methods for enforcing acceptable use, avoiding ambiguity[339], protecting intellectual property rights, or proactively preventing DNS abuse.

For example, six registry applications, of the 30 most popular new gTLDs that ultimately adopted voluntary PICs in their registry agreements, included provisions related to preexisting obligations: Abuse Prevention and Mitigation plan, Additional Mechanism for Protection of Capital City Names, Additional Mechanisms to Protect and Reserve IGO Names, Acceptable Abuse Policy, Rights Protection Mechanisms, and WHOIS Accuracy.[340] The only wholly new voluntary commitment made in these applications was for the creation of an Abuse Prevention and Mitigation Seal, which requires registrants to incorporate an APM Seal onto their web pages for one-click access by visitors to geographically

[338] This may have been due to the fact that the Registry Agreement was not yet finalized when voluntary PICs were submitted and therefore applicants may not have been aware of preexisting obligations.
[339] Voluntary PICs were incorporated into the .ooo Registry Agreement to protect against confusion with Australia's Triple Zero Emergency Call Service, including the reservation of domain names related to police, fire, and emergency, in order to prohibit domain name registrations that might lead to confusion with these services. See ICANN, ".ooo Registry Agreement," accessed 2 February 2017, https://www.icann.org/resources/pages/registries/registries-agreements-en, Specification 11, Section 4 a-c.
[340] Famous Four Media for .win, .loan (regulated), .date, .racing, .download (regulated), .accountant (regulated)

tailored abuse reporting resources.[341] These voluntary PICs were ultimately incorporated into Specification 11, Section 4 of the respective registration agreements.[342]

Many voluntary PICs emphasized prohibited uses of domain names, including some also forbade by other obligations, while some created new anti-abuse provisions. For example, some of the voluntary PICs incorporated into registry agreements included attempts to prevent the ability of DNS abusers to rely on privacy and proxy services. One operator focused on registrants by committing to "[l]imit the use of proxy and privacy registration services in cases of malfeasance"[343] whereas another targeted service providers by promising to "allow domain name proxy or privacy services to be offered only by select registrars and resellers who have demonstrated a commitment to enforcing the accuracy of registrant data and their willingness to cooperate with members of law enforcement to identify users who are engaging in improper or illegal activity."[344] One operator of two highly regulated domain names included provisions aimed at preventing repeat abuse by voluntarily committing to "block registrants of abusive domain names from further registrations" and "suspend or delete all names associated with a registrant."[345]

Many voluntary PICs included proactive and reactive methods for protecting intellectual property rights claims. Even for generic and open gTLDs, several registry agreements included voluntary PICs to undertake "commercially reasonable efforts" to consult with specific brand owners regarding the use of

Commented [jD57]: Edit from **Brian** on April 26, 2017: ICANN, "Registry Agreement,", Specification 11 Public Interest Commitments. Registry Agreements for .loan, .win. date, ,racing, .download, and .accountant can be found at the Registry Agreement homepage.

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[341] ICANN, "Registry Agreement," accessed 2 February 2017, https://www.icann.org/resources/pages/registries/registries-agreements-en, Specification 11 Public Interest Commitments. Registry Agreements for .loan, .win. date, ,racing, .download, and .accountant can be found at the Registry Agreement homepage.
ICANN, ".loan Application Details," accessed 2 February 2017, https://gtldresult.icann.org/application-result/applicationstatus/applicationdetails/1205
ICANN, ".win Application Details," accessed 2 February 2017, https://gtldresult.icann.org/application-result/applicationstatus/applicationdetails/1201
ICANN, ".date Application Details," accessed 2 February 2017, https://gtldresult.icann.org/application-result/applicationstatus/applicationdetails/1175
ICANN, ".racing Application Details," accessed 2 February 2017, https://gtldresult.icann.org/application-result/applicationstatus/applicationdetails/1227
ICANN, ".download Application Details," accessed 2 February 2017, https://gtldresult.icann.org/applicationstatus/applicationdetails/1217
ICANN, ".accountant Application Details," accessed 2 February 2017, https://gtldresult.icann.org/applicationstatus/applicationdetails/1187
[342] See ICANN, "Registry Agreement," Specification 11, Section 4. Registry Agreements for .loan, .win. date, ,racing, .download, and .accountant can be found at the Registry Agreement homepage.
[343] ICANN, "Registry Agreement," Specification 11, Section 4 (iii). Registry Agreements for .life, .live, .today, .ltd, .news, .rocks, .guru, .email, .solutions, .photography, .company, .tips, .center, .city, .world, .expert, .media can be found at the Registry Agreement homepage.
[344] ICANN, "Registry Agreement," Specification 11, Section 4 c(v). Registry Agreements for .life, .live, .today, .ltd, .news, .rocks, .guru, .email, .solutions, .photography, .company, .tips, .center, .city, .world, .expert, .media can be found at the Registry Agreement homepage.
[345] Minds+Machines (.dds, .abogado)

domain names in relevant commercial applications and to "reserve certain names that likely would interfere with the rights of that entity."[346] The same operator also committed to creating a Domains Protected Marks List that "allows rights holders to reserve registration of exact match trademark terms and terms that contain their trademarks across all gTLDs administered by registry operator under certain terms and conditions."[347] Moreover, the operator committed to establishing a "Claims Plus service," which would be used to alert new registrants if they attempted to register a domain name that matched a trademark.[348]

Registrant validation methods also appeared in some voluntary PICs. For example, the operator of a highly regulated new gTLD included in its voluntary PICs a requirement that registrants hold a valid trademark corresponding to the domain name for which they are registering.[349] Another operator added a commitment to include corporate designation status in the WHOIS records for a highly regulated domain,[350] committing to "provide appropriate jurisdictional authorities with the capability at their option and at no cost to make designations in the WHOIS record relevant to the registrant's organizational status in the registrant's jurisdiction."[351] This means that a WHOIS record would indicate whether or not the registrant organization's corporate status had been validated by the relevant jurisdiction's governing authority.

Both the registrant and consumer surveys commissioned by the CCTRT demonstrated a positive correlation between restrictions imposed by TLD operators and trust associated with a given TLD.[352] Compatible with this notion, voluntary PICs provided a mechanism by which new gTLD operators imposed and promoted registration and use restrictions as part of their brand identity, making binding commitments to ICANN as well as to registrants, which, in effect, may have assuaged concerns from the

Commented [jD58]: Edit from **Brian** on April 26, 2017: Nielsen, Consumer Research (2015); Nielsen, Consumer Research Wave 2 (2016). Nielsen, Registrant Survey (2015); Nielsen, Registrant Survey Wave 2 (2016).

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[346] ICANN, "Registry Agreement," Specification 11, Section 4. Registry Agreements for .life, .live, .today can be found at the Registry Agreement homepage.
[347] ICANN, "Registry Agreement," Specification 11, Section 4 (iii). Registry Agreements for .life, .live, .today. , .ltd, .news, .rocks, .guru, .email, .solutions, .photography, .company, .tips, .center, .city, .world, .expert, .media can be found at the Registry Agreement homepage.
[348] ICANN, "Registry Agreement," Specification 11, Section 4 (iv). Registry Agreements for .life, .live, .today. , .ltd, .news, .rocks, .guru, .email, .solutions, .photography, .company, .tips, .center, .city, .world, .expert, .media can be found at the Registry Agreement homepage.
[349] fTLD Registry Services (.insurance)
[350] ICANN, "Annex 2 - ICANN NGPC Resolution NO.2014.02.05.NG01."
[351] ICANN, "Registry Agreement," Specification 11, Section 4 (e). The Registry Agreement for .ltd can be found at the Registry Agreement homepage.
[352] Nielsen, *ICANN Global Consumer Research* (April 2015), accessed 25 January 2017, https://www.icann.org/news/announcement-2015-05-29-en
Nielsen, *ICANN Global Consumer Research Wave 2* (June 2016), accessed 25 January 2017, https://www.icann.org/news/announcement-2-2016-06-23-en
Nielsen, *ICANN Global Registrant Survey* (September 2015), accessed 25 January 2017, https://www.icann.org/news/announcement-2015-09-25-en
Nielsen, *ICANN Global Registrant Survey Wave 2* (August 2016), accessed 25 January 2017, https://www.icann.org/news/announcement-2-2016-09-15-en

GAC and other community members. However, two factors could be viewed as undermining this goal: first, the applicant could choose whether or not to incorporate these application representations into the final registration agreement and second, even if the applicant chose to incorporate the representations into its registry agreement as PICs, it could also include a provision permitting it and subsequent operators[353] to withdraw or modify the PICs.[354]

Ultimately, applicants had little time to decide which PICs to adopt voluntarily and did not know what the enforcement mechanism would be for the PICs. The combination of a short timeframe, less than 30 days,[355] and uncertainty about the specifics of enforcement may have deterred certain applicants from submitting PICs or impacted which PICs they elected to submit.

Commented [jD59]: Edit from **Brian** on April 26, 2017: ICANN, "Frequently Asked Questions: Specification 11 of the Revised New gTLD Registry Agreement: Public Interest Commitments: What is schedule for the Public Interest Commitments (PIC) Specification Proposal?" accessed 2 February 2017,

The CCTRT anticipates additional input from communities affected by voluntary PICs, and from the DNS Abuse Study on the correlation between PICs and abuse rates, all of which will be included in the CCTRT's final report.

Enforcement of PICs

Mandatory and voluntary PICs are enforced by both ICANN Compliance via its usual complaint procedures and via the Public Interest Commitment Dispute Resolution Process (PICDRP) established on December 19, 2013.[356] The GAC has expressed concerns that the PICDRP is "complex, lengthy, and

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[353] .Live was assigned from the original applicant, a Donuts subsidiary, to United LTD

[354] One registry operator that made several uniquely robust voluntary PICs reserved the right to discontinue any of its voluntary PICs "in the case of a substantial and compelling business need." ICANN, "Registry Agreement," Specification 11, Section 4 (iii). Registry Agreements for .life, .live, .today. , .ltd, .news, .rocks, .guru, .email, .solutions, .photography, .company, .tips, .center, .city, .world, .expert, .media can be found at the Registry Agreement homepage.

[355] *What is schedule for the Public Interest Commitments (PIC) Specification Proposal?* ICANN, "Frequently Asked Questions | Specification 11 of the Revised New gTLD Registry Agreement: Public Interest Commitments," accessed 2 February 2017, https://newgtlds.icann.org/en/applicants/agb/base-agreement-specs-pic-faqs
*ICANN, "*Revised New gTLD Registry Agreement Including Additional Public Interest Commitments Specification: Section I: Description, Explanation, and Purpose.**"**
ICANN, "Posting of Public Interest Commitments (PIC) Specifications Completed," accessed 2 February 2017, https://newgtlds.icann.org/en/announcements-and-media/announcement-06mar13-en

[356] ICANN*, "About Public Interest Commitments Dispute Resolution Procedure (PICDRP)," accessed 2 February 2017, https://www.icann.org/resources/pages/picdrp-2013-10-31-en*
and ICANN, "About gTLD Compliance Program," accessed 2 February 2017, https://www.icann.org/resources/pages/gtld-2012-02-25-en
and ICANN (11 February 2015), *Governmental Advisory Committee Communiqué – Singapore,* accessed 3 February 2017, https://www.icann.org/en/system/files/correspondence/gac-to-board-11feb15-en.pdf (re: role of ICANN Compliance)

ambiguous, raising questions as to its effectiveness in addressing serious threats."[357] To date, no complaints have been submitted alleging breach of a voluntary PIC.

The first use of the PICDRP complaint process is currently underway.[358]

Commented [jD60]: Edit from **Brian** on April 26, 2017: ICANN GAC (2014), "London Communiqué" and ICANN GAC (2015), "Singapore Communiqué."

Recommendations

Recommendation 37: The ICANN organization should improve the accessibility of voluntary public interest commitments by maintaining a publicly accessible database of these commitments, as extracted from the registry agreements.

Rationale/related findings: The current process of analyzing individual voluntary PICs, comparing PICs amongst TLDs, and understanding their impact is currently cumbersome for end users and the community. Unlike many other aspects of registry agreements, voluntary PICs vary greatly from one TLD to another. Therefore, a publicly accessible database of these commitments would enhance visibility and accountability.

To: ICANN organization

Prerequisite or Priority Level: Medium

Consensus within team: Yes

Recommendation 38: Future gTLD applicants should state the goals of each of their voluntary PICs.

Rationale/related findings: The intended purpose is not discernable for many voluntary PICs, making it difficult to evaluate effectiveness.

To: ICANN organization and Subsequent Procedures PDP Working Group

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Recommendation 39: All voluntary PICs should be submitted during the application process such that there is sufficient opportunity for Governmental Advisory Committee (GAC) review and time to meet the deadlines for community and Limited Public Interest objections.

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[357] *ICANN (2014), Governmental Advisory Committee Communiqué – London, United Kingdo, accessed 3 February 2017, https://www.icann.org/en/system/files/correspondence/gac-to-board-25jun14-en.pdf*
ICANN, "Governmental Advisory Committee Communiqué – Singapore."
[358] "Public Interest Commitment Dispute Resolution Procedure Complaints," *Domain Incite*, 12 October 2016, accessed 3 February 2017, http://domainincite.com/docs/FEEDBACK-PICDRP-Complaint.pdf

Rationale/related findings: At present, there is no mechanism in place to ensure that voluntary public interest commitments do not negatively impact the public interest prior to going into effect. Therefore, it is important for voluntary PICs to be made available to the community during the public comment period of the application process.

To: Subsequent Procedures PDP Working Group

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Rights Protection Mechanisms

The CCT Review Team examined whether the new rights protection mechanisms specifically developed in connection with the introduction of the New gTLD Program alongside existing rights protection mechanisms help encourage a safe environment and promoted consumer trust in the DNS and also sought to measure the costs impact of the New gTLD Program to intellectual property owners.

Prior to the 2012 gTLD expansion in the number of gTLDs, aside from action taken by courts, the main rights protection mechanism for the Domain Name System was the Uniform Domain Name Dispute Resolution Policy (UDRP), an alternative dispute resolution procedure (adopted by ICANN on 26 August 1999) that applied to all generic top-level domains. However, the existence of issues concerning trademark protection were identified prior to the 2012 gTLD expansion in particular the trademark community had voiced concerns that this mechanism alone would be insufficient to adequately protect trademark rights and consumers in an expanded DNS. The ICANN Board therefore resolved (2009.03.06) that an internationally diverse group of persons with knowledge, expertise and experience in the fields of trademark, consumer protection, competition law and the interplay of trademarks and the Domain Name System be convened to propose solutions to the overarching issue of trademark protection in connection with the introduction new gTLDs[359]. This group was named the Implementation Recommendation Team (IRT).

Commented [jD61]: Edit from **Brian** on April 26, 2017: ICANN, "Adopted Board Resolutions: Mexico: Protections for Trademarks in New gTLDs," 6 March 2009, https://www.icann.org/resources/board-material/resolutions-2009-03-06-en#07

A set of new rights protection mechanisms (RPMs) were proposed by IRT, namely: Uniform Rapid Suspension System (URS); Post-Delegation Dispute Resolution Procedures (PDDRPs); the Trademark Post-Delegation Dispute Resolution Procedure (TM-PDDRP); Registry Restriction Dispute Resolution Procedure (RRDRP); Public Interest Commitments Dispute Resolution Procedure (PICDRP); and the Trademark Clearinghouse (Sunrise and Claims Service)[360].

Description of the RPMs

Uniform Domain Name Dispute Resolution Policy (UDRP)

The Uniform Domain Name Dispute Resolution Policy (UDRP) is an alternative dispute resolution procedure adopted by ICANN on 26 August 1999 that applies to all generic top-level domains (gTLDs), including legacy gTLDs (such as .com, .net, .info) as well as new gTLDs, and certain country code top-level domains (ccTLDs) that have adopted it. To be successful under the UDRP, a complainant must demonstrate by preponderance of the evidence the following three requirements: (i) the domain name registered by the respondent is identical or confusingly similar to a trademark or service mark in which

[359] https://www.icann.org/resources/board-material/resolutions-2009-03-06-en#07

[360] In addition, string contention processes were introduced for applications for the gTLDs themselves, relating to string confusion, limited public interest, community objection and legal rights objection. These are discussed in more detail in the Application and Evaluation section.

the complainant has rights; and (ii) the respondent has no rights or legitimate interests in respect of the domain name; and (iii) the domain name has been registered and is being used in bad faith.

A procedure under the UDRP takes approximately 2 months, from the filing of a complaint to a decision. Costs for filing a complaint under the UDRP range between USD 1500 for 1 to 5 domain names (single-member panel) and USD 4000 for 1 to 5 domain names (three-member panel), excluding lawyers' fees. The remedies available under the UDRP are limited to the transfer or cancellation of a domain name. No damages are awarded and there is no appeal mechanism in place. A decision is generally implemented after 10 business days following the notification of the decision, unless court proceedings are initiated in a court of competent jurisdiction.

UDRP complaints are filed electronically with an ICANN-approved dispute resolution provider. To date, the following providers have been approved by ICANN: the Asian Domain Name Dispute Resolution Centre (ADNDRC), the Forum (NAF), World Intellectual Property Organization (WIPO), the Czech Arbitration Court Arbitration Center for Internet Disputes (CAC) and the Arab Center for Domain Name Dispute Resolution (ACDR).

Uniform Rapid Suspension System (URS)

The Uniform Rapid Suspension System (URS) is an alternative dispute resolution procedure launched in 2013 that was originally designed for clear-cut cases of cybersquatting under new generic top-level domains (gTLDs), although it has been voluntarily adopted by a handful of ccTLDs and "sponsored" TLDs (such as .pw, .travel, .pro and .cat). The substantive requirements under the URS are similar to those under the UDRP, although the required burden of proof is heavier ("clear and convincing evidence," as opposed to "preponderance of the evidence"). A complainant must thus prove the following three requirements: (1) that the domain name is identical or confusingly similar to a word mark: (a) for which the Complainant holds a valid national or regional registration and that is in current use or (b) that has been validated through court proceedings or (c) that is specifically protected by a statute or treaty in effect at the time the URS complaint is filed (1.2.6.1 of the URS); (2) that the registrant has no rights or legitimate interests in the domain name; and (1.2.6.2 of the URS) and (3) the domain name was registered and is being used in bad faith (1.2.6.3 of the URS). Complaints are limited to 500 words. The URS is intended for the most clear-cut cases of cybersquatting and so it is generally not appropriate for domain name disputes involving more complex, genuine contestable issues (such as fair use).

The only remedy available under the URS is the suspension of the domain name, as opposed to the transfer or cancellation (which are remedies available under the UDRP).

Under the URS a domain name may be suspended in as quickly as three weeks from the filing of a complaint. In the event of a favourable decision for the complainant, the domain name is suspended for the remainder of the registration period (which may be extended for an additional year). The website associated with the domain name in question will display a banner stating "This Site is Suspended" but the WHOIS for the domain name will continue to display the information of the original registrant (except for the redirection of the name servers). If the decision in favor of the complainant was a judgment by default, the registrant may seek a de novo review by filing a response up to six months after the notice of default (which may be extended by six additional months upon request by the registrant).

In the event the decision is denied, the URS provides for an appeal mechanism based on the existing record.

Costs for filing a URS complaint are around USD 375 (for 1 to 14 domain names).

Only three providers have so far been accredited for the URS: the Asian Domain Name Dispute Resolution Centre (ADNDRC), the Forum (NAF) and MSFD Srl (based in Milan, Italy).

Post-Delegation Dispute Resolution Procedures (PDDRP)

Post-Delegation Dispute Resolution Procedures are rights protection mechanisms that have been designed to provide relief against a new gTLD registry operator's conduct (as opposed to a domain name registrant or registrar). There are three PDDRPs.

The Trademark Post-Delegation Dispute Resolution Procedure (TM-PDDRP) allows a trademark holder to file a complaint against the registry operator for its involvement in trademark infringement either at the top or second level of a new gTLD.

At the top-level, a complainant must demonstrate by "clear and convincing evidence" that "the registry operator's affirmative conduct in its operation or use of a new gTLD that is identical or confusingly similar to the complainant's trade mark, causes or materially contributes to the gTLD doing one of the following: (1) taking unfair advantage of the distinctive character or the reputation of the complainant's trade mark or (2) impairing the distinctive character or the reputation of the complainant's trade mark; or (3) creating a likelihood of confusion with the complainant's mark" (paragraph 6.1 of the TM-PDDRP).

At the second level, complainants are required to demonstrate by "clear and convincing evidence" that "through the registry operator's affirmative conduct: (a) there is a substantial pattern or practice of specific bad faith intent by the registry operator to profit from the sale of trade mark infringing domain names; and (b) the registry operator's bad faith intent to profit from the systematic registration of domain names within the gTLD that are identical or confusingly similar to the complainant's mark, which: (i) takes unfair advantage of the distinctive character or the reputation of the complainant's trade mark; or (ii) impairs the distinctive character or the reputation of the complainant's trade mark, or (iii) creates a likelihood of confusion with the complainant's trade mark" (paragraph 6.2 of the TM-PDDRP).

If the registry operator is found liable by the expert panel, a number of remedies may be recommended, including remedial measures to prevent future infringing registrations; suspension of accepting new domain name registrations in the gTLDs at stake until the violation has ceased or for a set period of time prescribed by the expert; or termination of the Registry Agreement, in extraordinary circumstances, where the registry operator has acted "with malice" (paragraph 18 of the TM-PDDRP). Ultimately, ICANN has the authority to impose the remedies it deems appropriate, if any.

To date, ICANN has appointed the following dispute resolution providers to resolve disputes under the TM-PPDRP: the Asian Domain Name Dispute Resolution Centre (ADNDRC), the Forum (NAF), and World Intellectual Property Organization (WIPO).

Registry Restriction Dispute Resolution Procedure (RRDRP), allows an established institution to file a complaint against a community-based new gTLD registry operator for failing to meet registration restrictions set out in its Registry Agreement. For a claim to be successful, a complainant must demonstrate by "preponderance of the evidence" that: "(i) the community invoked by the objector is a defined community; (ii) there is a strong association between the community invoked and the gTLD label or string; (iii) the TLD operator violated the terms of the community-based restrictions in its agreement; (iv) there is a measureable harm to the Complainant and the community named by the objector." The remedies recommended by the expert panel are similar to those prescribed under the TM-PDDRP. Ultimately, ICANN has the authority to decide whether to impose such remedies.

Public Interest Commitments Dispute Resolution Procedure (PICDRP), allows any person or entity (the "reporter") to file a complaint against a new gTLD registry operator for failure to comply with the Public Interest Commitment(s) in Specification 11 of its Registry Agreement. The Reporter must file a "PIC report" with ICANN by completing an online form. The PIC Report must (1) identify which PIC(s) form the basis for the report; (2) state the grounds for non-compliance with one or more PICs and provide supporting evidence and (3) state how the reporter has been harmed by the alleged noncompliance. ICANN may undertake a compliance investigation or invoke a "Standing Panel." If the registry operator is found to be not in compliance with its PIC, it will have 30 days to resolve its noncompliance. If the registry operator fails to resolve the noncompliance issues, ICANN will determine the appropriate remedies.

Trademark Clearinghouse (TMCH)

The Trademark Clearinghouse (TMCH) is a centralized database of verified trademarks from all over the world mandated by ICANN to provide protection to trademark holders under the new gTLDs. The TMCH performs several important functions, including authenticating and verifying trademark records, storing such trademark records in a database and providing this information to new gTLD registries and registrars. The data contained in the TMCH supports rights protection mechanisms such as Sunrise Services (which provide an opportunity to trademark holders to register domain names corresponding to their trademarks prior to general availability) and the Trademark Claims services (a notification service to domain name registrants and trademark holders of potentially infringing domain name registrations). Registration of a trademark with the TMCH is required to be able to participate not only in the Sunrise Period and Trademark Claims services but also in other registry-specific rights protection mechanisms such as domain name blocking mechanisms such as Donuts' Domain Protected Marks List (DPML) (although it is optional for other RPMs, such as the URS). The TMCH is therefore an important tool to protect trademark rights under the New gTLD program.

Consideration of these mechanisms and whether they have helped mitigate the issues around the protection of trademark rights and consumers in this expansion of gTLDs

The CCT Review Team looked at whether these mechanisms have helped to mitigate the issues around the protection of trademark rights and consumers in this expansion of gTLDs and have sought to obtain

data to help assess the impact of ICANN's New gTLD Program on the cost and effort required to protect trademarks in the Domain Name System.

Whilst awaiting that data, and given the ongoing Working Groups currently looking into the RPMs the CCT Review Team has not included in detail for the draft report how the RPMs are performing and whether they are encouraging a safe environment and promoting consumer trust in the DNS. It is hoped that the INTA Impact Study will provide substantial data in that respect. In the meantime, it can be said from the ICANN Rights Protection Mechanisms (RPM) Review, conducted by the ICANN organization and reported on 11 September 2015 that overall the URS has produced positive results in certain limited cases. The speed and low cost caters to those who have clear-cut cases and are indifferent towards the solution of a suspended domain name. However, some rights holders have not opted to use this service due to the "clear and convincing" standard being seen as too strict and the URS remedy being limited to suspension only. There is also concern voiced over the possibility of the domain name being registered once more by another potential infringer once it is released, thus some rights holders feel more comfortable having the domain name in their portfolio, which can be achieved via a UDRP. Indeed, the value of a suspended domain name is questioned.

A full and robust data analysis is not possible at the present time due to a lack of relevant and pertinent data. While such data are being collated, some preliminary findings have been made based on the information that was available as of November 2016.

Numbers of Cases Filed (UDRP and URS)

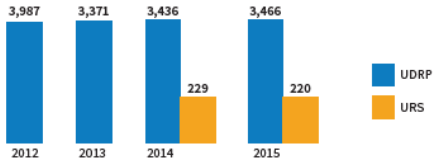
According to metrics available to ICANN which have been compiled from Uniform Dispute Resolution Procedure (UDRP) and Uniform Rapid Suspension (URS), there has been a decline in the number of UDRP complaints since the introduction of new gTLDs. There were 3987 UDRP complaints filed in 2012. In 2013, this had dropped 15% to 3371 before rising in 2014 to a total of 3436 complaints and in 2015 to 3466 complaints. However, the number of complaints in both years was still 13% below the 2012 level. One possible explanation for the decline that this data exhibits is that the URS may have been found to be more attractive to certain trademark owners as an alternative and cheaper recourse. In both 2014 and 2015, there were 229 and 220 URS complaints filed, respectively. However, even taking these into account, the total number of complaints filed through either the UDRP or the URS was still lower than the total number of UDRP complaints filed in 2012 by around 7.5%.

Overall we are seeing a small decline in cases filed (less that 10%) based on this data.

Before making any recommendations we await the data from ICANN concerning the number of complaints filed in 2016.

It is important to note, however, that the number of UDRPs and URSs filed reflect only part of the costs incurred by trademark owners in defending their brands and the bulk of enforcement costs may have been incurred in the form of defensive registrations / blocking/ watching / cease and desist letters for which we do not presently have data. It is anticipated that the INTA Impact Study will provide data in this respect.

Table 13 Total UDRP/URS Complaints Filed 2012-2015[361]



361

We also note that the number of complaints filed under the UDRP before the World Intellectual Property Organization (WIPO) has been steadily increasing since the introduction of the first new gTLDs in 2013, with 2,754 complaints filed in 2015 compared with 2,634 filed in 2014, representing a growth of 4.6% year over year. Contrary to the previous data this points to a small growth in cases filed but again this is less than a 10% change. While the number of domain name disputes filed with WIPO in 2015 did not surpass the all-time record high of 2,884 cases filed in 2012, it did reach the third highest level since 1999. From these data, it would seem to indicate that the number of complaints filed is increasing with the introduction of new gTLDs. But of course we are also looking at a greater number of domain name registrations overall with the new gTLDs being introduced. Here again we need to look at the 2016 figures when available before making recommendations.

WIPO reports that, domain name disputes under new gTLDs accounted for 10.5% of all UDRPs filed with WIPO in 2015, with .XYZ, .CLUB and .EMAIL amongst the new gTLDs with the most disputed domain names.[362]

Indeed, the current figures for 2016 show that new gTLDs currently account for 15% of the 2016 caseload for WIPO. With new gTLDs being less than 10% of registration volume of gTLDs, these data indicate that there may be proportionately more trademark infringement in new gTLDs than in the legacy gTLDs.

Commented [jD62]: Edit from **Brian** on April 26, 2017: World Intellectual Property Organization, "Cybersquatting Cases Up in 2015, Driven by New gTLDs," 18 March 2016, accessed 26 April 2017, http://www.wipo.int/pressroom/en/articles/2016/article_0003.html

Complaints to ICANN Concerning Implementation of UDRP and URS Decisions

ICANN's role is to ensure that the registrars comply with the UDRP and UDRP Rules as well as the URS procedure and rules.

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[361] ICANN, "Competition, Consumer Trust and Consumer Choice (CCT) Metrics Reporting: Rights Protection Mechanisms," accessed 4 March 2017, https://www.icann.org/resources/pages/cct-metrics-rpm-2016-06-27-en#1.9.a

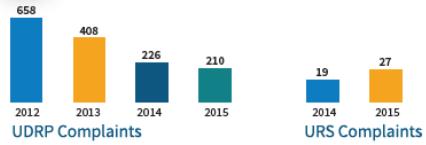
[362] http://www.wipo.int/pressroom/en/articles/2016/article_0003.html

For example, a UDRP provider may file a UDRP complaint that a registrar did not timely lock a domain subject to a UDRP or respond to the provider's verification request. The Complainant may then submit a complaint to ICANN when the registrar fails to timely implement a UDRP decision.

With regard to the URS, for example, the registry operator must also timely lock, and if applicable suspend the relevant domain name in accordance with the URS determination and the URS procedure and rules. The prevailing Complainant in the URS proceeding and the URS Provider may submit a URS complaint regarding such alleged violations to ICANN via the URS compliance web form.

Looking at the number of complaints made to ICANN concerning implementation of UDRP and URS decisions[363], the number of UDRP complaints has been declining year on year from 2012 to 2015, with 2015 seeing complaints down by some 70% compared to 2012. However, URS complaints have risen in the two years for which data are available and indeed were 42% higher in 2015. It is too early to make conclusions other than it seems that there are potentially more issues with URS complaints and registrar compliance with the relevant rules than UDRP complaints since as a percentage of total complaints in 2015 the UDRP saw 6% complaints. There were 210 complaints in 2015 for 3466 UDRP complaints filed thus a 6% complaint level. Compared to the URS with 27 complaints in 2015 for 220 URS complaints filed thus a little over 12% complaint level. The higher level of implementation complaints concerning the URS compared to the UDRP may be down to a number of factors including its relative newness, complexity of process and recent adoption by registrars.

Table 14 Total UDRP/URS Complaints to ICANN[364]



364

Trademark Clearing House (TMCH)

With regard to the Trademark Clearinghouse, the draft report of the Trademark Clearinghouse Independent Review of 25 July 2016 was based on an analysis of TMCH and third-party data sources, as well as interviews and surveys of TMCH stakeholders. The findings are preliminary but it seems that the Claims Service and matching criteria may be helping deter domain name registrations that infringe rights holders where they are exact matches to trademark strings recorded in the TMCH. It also seems that some good-faith registrations are being deterred by the Claims Service system, which may be

Commented [jD63]: Edit from **Brian** on April 26, 2017: ICANN, "Competition, Consumer Trust and Consumer Choice (CCT) Metrics Reporting: Rights Protection Mechanisms.

[363] It should be noted that Complaints regarding the merits of the decision are outside of ICANN's contractual scope.

[364] ICANN, "Competition, Consumer Trust and Consumer Choice (CCT) Metrics Reporting: Rights Protection Mechanisms," accessed 4 March 2017, https://www.icann.org/resources/pages/cct-metrics-rpm-2016-06-27-en#1.9.b

detrimental to the registration activity of non-trademark-holder domain registrants, however it is noted in that draft report that there are data limitations preventing any definitive conclusion. With regard to the often discussed possibility of extending the Claims Service period or expanding the matching criteria used for triggering Claims Service notifications may only be of limited benefit to trademark holders on the one hand, but on the other could cause costs to other stakeholder groups, such as registries, registrars, and non-trademark-holder domain registrants. Again, data limitations prevented a cost-benefit analysis of extending the Claims Service or expanding the matching criteria. As such it is difficult to make recommendations at this stage and it is hoped that the INTA Impact Study will provide additional data in that respect.

Trademark Post-Delegation Dispute Resolution Procedure (TM-PDDRP)

ICANN Contractual Compliance has received no complaints regarding a registry operator's non-compliance with the PDDRP. However, it should be noted that there is currently a GNSO Working Group conducting a Policy Development Process (PDP) to Review all Rights Protection Mechanisms (RPMs) in all gTLDs that is exploring possible impediments to implementation of the PDDRP since there are no known PDDRP filings with such providers to date. If there are conclusions from that working group prior to our final report, we will review and include.

Registry Restrictions Dispute Resolutions Procedure (RRDRP) Decisions

The RRDRP is intended to address circumstances in which a community-based new gTLD registry operator deviates from the registration restrictions outlined in its Registry Agreement. As of 22 February 2016, there have been no RRDRP cases.

Share of Sunrise Registrations and Domain Blocks to Total Registrations in Each TLD

At the time of writing (November 2016), the only available data on the number of sunrise registrations compared to total registrations in new gTLDs are from ICANN. According to ICANN there are no consolidated data available regarding commercial blocking services offered by registries. The CCTRT remains open to receive any such data.

Sources:

Compilation of procedures related sources:

Competition, Consumer Trust, and Consumer Choice Review Team Community Wiki, "Procedures," accessed 5 March 2017, https://community.icann.org/display/CCT/Procedures

ICANN, "Rights Protection Mechanisms Review."

ICANN GNSO, "PDP Review of All Rights Protection Mechanisms in All gTLDs," accessed 5 March 2017, https://gnso.icann.org/en/group-activities/active/rpm

Liu, Rafert, and Siem (25 July 2016), Independent Review of Trademark Clearinghouse (TMCH) Services Draft Report, accessed 5 March 2017, https://newgtlds.icann.org/en/reviews/tmch/draft-services-review-25jul16-en.pdf

Compilation of impact of safeguards and PICs related sources:

ICANN, "CCT Metrics Reporting: Rights Protection Mechanisms," accessed 5 March 2017, https://www.icann.org/resources/pages/cct-metrics-rpm-2016-06-27-en

Priority to Address:

The need for data is pivotal and the results of the INTA Impact Study and other data are awaited in order to fully inform the community on the impact of ICANN's New gTLD Program on the cost and effort required to protect trademarks in the Domain Name System. The survey is one going out to corporates, SMEs, universities and nonprofits.

Recommendations:

These are draft recommendations awaiting the INTA / Nielsen Impact Study results that are due March 2017. Once these are received, we will prepare refined recommendations.

Recommendation 40: This Full Impact Study to ascertain the impact of the New gTLD Program on the cost and effort required to protect trademarks in the DNS should be repeated at regular intervals to see the evolution over time as the New gTLD Program continues to evolve and new gTLD registrations increase. We would specifically recommend that the next Impact Survey be completed within 18 months after issuance of the CCTRT final report, and that subsequent studies be repeated every 18 to 24 months.

Rationale/related findings: Costs will likely vary considerably over time as new gTLDs are delegated and registration levels evolve. Repeating the Impact Study would enable a comparison over time.

To: ICANN organization

Prerequisite or Priority Level: High

Consensus within team: Yes

Details: The evolution over time will provide a more precise picture of costs as they evolve and track the effectiveness of RPMs generally in the Domain Name System.

Success Measures: The results of such Impact Studies would provide significantly more data to the relevant working groups currently looking into RPMs and the TMCH as well as future ones, thereby benefitting the community as a whole. Recommendations would then also be able to evolve appropriately in future CCT Review Teams.

Recommendation 41: A full review of the URS should be carried out and consideration be given to how it should interoperate with the UDRP. However, given the PDP Review of All Rights Protection Mechanisms in All gTLDs, which is currently ongoing, such a review needs to take on board that report when published and indeed may not be necessary if that report is substantial in its findings and if the report fully considers potential modifications.

Rationale/related findings: The uptake in use of the URS appears to be below expectations, so it would be useful to understand the reasons for this and whether the URS is considered an effective mechanism to prevent abuse. It is also important for all gTLDs to have a level playing field. The PDP Review of All Rights Protection Mechanisms in All gTLDs is due to consider the URS during spring or early summer 2017 with a final report scheduled for January 2018. It would seem to be diluting resources to create a separate review of the URS without the clarity of the PDP Review of All Rights Protection Mechanisms in All gTLDs.

To: RPM PDP Working Group

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Details: A review of the URS should cover potential modifications inter alia (1) whether there should be a transfer option with the URS rather than only suspension; (2) whether two full systems should continue to operate (namely UDPR and URS in parallel) considering their relative merits, (3) the potential applicability of the URS to all gTLDs and (4) whether the availability of different mechanisms applicable in different gTLDs may be a source of confusion to consumers and rights holders.

Success Measures: Based on the findings, a clear overview of the suitability of the URS and whether it is functioning effectively in the way originally intended.

Recommendation 42: A review of the Trademark Clearinghouse (TMCH) and its scope should be carried out to provides us with sufficient data to make recommendations and allow an effective policy review.

Rationale/related findings: It seems likely that a full review of the TMCH is necessary. The effectiveness of the TMCH appears to be in question. The draft report of Trademark Clearinghouse Independent Review of 25 July 2016 has not been able to make definitive conclusions due to data limitations. We need to await the final report of that Independent Review to finalize our recommendations. It is hoped that the INTA Impact Study will also provide useful data in that respect. Indeed the PDP Review of All Rights Protection Mechanisms in All gTLDs, which is running in parallel to this CCT Review Team, will contribute to this consideration with its report due January 2018. That Working Group's report needs to be considered to set the scope of any review and potential modifications.

To: RPM PDP Working Group

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Details: There appears to be considerable discussion and comment on whether the TMCH should be expanded beyond applying to only identical matches and if it should be extended to include "mark+keyword" or common typographical errors of the mark in question. If an extension is considered valuable, then the basis of such extension needs to be clear.

Success Measures: The availability of adequate data to make recommendations and allow an effective policy review of the TMCH.

X. Application and Evaluation Process of the New gTLD Program

In addition to exploring the consumer welfare impact of the New gTLD Program, the CCTRT was charged with evaluating the "effectiveness" of the Application and Evaluation process.[365] Obviously, this is a potentially overbroad mandate, especially given the concurrent PDP on subsequent procedures. Therefore, instead of focusing on the possible inefficiencies of the application and evaluation process, the CCTRT decided to focus on possible inequities in the process. These include the potential for the process to favor some communities over others, some regions over others, or simply produce inconsistent and unpredictable results.

Applications and the "Global South"

One of the questions that the CCTRT addressed was whether the application and evaluation process was effective in serving the needs of previously underserved regions or communities, sometimes referred to as the developing world. In particular, the CCTRT endeavored to determine if these communities had special needs that were not met or resource deficiencies that were insufficiently supplemented to create a level playing field among all potential applicants. For purposes of this review, the Global South was defined to include Africa, Latin America, the Caribbean, India, and Southeast Asia, excluding China.

Of course, the only "hard" data on applications from the Global South was their paucity. In total, there were only 303 applications from the Global South and only 200 continued all the way to delegation[366]. To better understand the challenges faced by those applicants, the CCTRT commissioned a survey of applicants, conducted by A.C. Nielsen.[367] Unfortunately, low participation in the survey meant that only two respondents were from the Global South[368] but these nonetheless identified some special problems that were faced by applicants from the Global South.

A perhaps trickier task was to determine why there were so few applications for new strings from these regions. There were a number of possible explanations: insufficient outreach by ICANN, insufficient funds for applicants, insufficient technical expertise, or possibly insufficient market confidence. Given

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[365] ICANN, *Affirmation of Commitments* (September 2009), accessed 25 January 2017, https://www.icann.org/resources/pages/affirmation-of-commitments-2009-09-30-en

[366] ICANN, "Competition, Consumer Trust and Consumer Choice (CCT) Metrics Reporting: Registries," accessed 25 January 2017, https://www.icann.org/resources/pages/cct-metrics-rpm-2016-06-27-en ICANN, "Program Statistics",accessed 25 January 2017, https://newgtlds.icann.org/en/program-status/statistics. The total number of applications received from the Global South excludes 41 applications from China.

[367] Nielsen, *ICANN Application Process Survey* (December 2016), accessed 25 January 2017, https://community.icann.org/download/attachments/56135378/2016%20ICANN%20Application%20Process%20Report.pdf?version=1&modificationDate=1482246915000&api=v2

[368] Nielsen, Application Process Survey (2016).

the low penetration of ccTLD registrations in the Global South[369] it might simply have been rational for potential applicants to adopt a wait and see posture. Moreover, to the extent that promotion of the New gTLD Program by ICANN would be considered part of the "application and evaluation" process, it is certainly useful to understand what kinds of information were available to potential applicants from the Global South.

To that end, the CCTRT commissioned a study by AMGlobal[370] which included evaluating the characteristics of those entities from the Global North that had applied for new strings, identifying similar entities in the Global South that had not applied, and conducting a phone survey of a sample of those entities to better understand their reasons for nonparticipation. Although it was not feasible to conduct a statistically valid survey of potential applicants, the anecdotal data (largely from Latin America) suggest a number of areas for improvement in outreach and facilitation efforts by ICANN in any future rounds. In particular, the CCTRT wanted to explore the program outreach and applicant support both financial and nonfinancial.

Commented [jD64]: Edit from **Brian** on April 26, 2017: AMGlobal, New gTLDs and the Global South (2016).

Program Outreach

Limited awareness of the New gTLD Program and unfamiliarity with ICANN appeared to be a key factor limiting participation from the Global South. Fewer than half of the interviewees described having moderate to high levels of awareness of the program and many said that despite having some information, they felt they did not have needed details. Almost one-third all interviewees said that they had almost no knowledge of the program or had never heard about the program at all. Many interviewees who had heard "something" noted they had no understanding of the program's connection to ICANN, and about one-third of all interviewees had no knowledge of ICANN at all. Given the newness of the idea of new gTLDs in many emerging markets, this lack of information was a significant issue. [371]

ICANN carried out a promotional campaign for the new program that included online advertising and outreach through their regional centers. These included live presentations, live consultations, and webinars. [372]It chose to eschew what might be considered "sales" in favor of general information arguing that it was not in its remit to convince the market to apply for strings but rather to make it

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[369] ICANN, "Zooknic ccTLD data," accessed 30 January 2017, https://community.icann.org/display/CCT/Studies%2C+Research%2C+and+Background+Materials?preview=/56135378/60492555/Zooknic%20ccTLD%20data.xlsx

[370] AMGlobal, *New gTLDs and the Global South* (2016). AMGlobal Consulting, New gTLDs and the Global South: Understanding Limited Global South Demand in the Most Recent New gTLD Round and Options Going Forward (October 2016), accessed 25 January 2017, https://community.icann.org/pages/viewpage.action?pageId=56135383

[371] Ibid.

[372] ICANN, "New gTLD Program Global Consultation and Outreach Events," accessed 25 January 2017, https://archive.icann.org/en/topics/new-gtlds/consultation-outreach-en.htm

known that applications were being accepted.[373] Many in the community believed that these outreach efforts were insufficient[374] and the responses from the AMGlobal survey appear to bear that out.

One barrier to entry, especially in Latin America, was the limited time window between the provision of information to the close of the new round. While many in the ICANN community have been waiting for the start of new gTLD round, it was news to many in the Global South. A number of interviewees admonished ICANN for providing information too late, thus providing inadequate time for decision-making. This seemed to have especially affected decision making at large conglomerates and government entities, which suggested that they might need six months or more to fully explore, socialize, and win approval for a new gTLD initiative. As a number of Latin American respondents suggested, it could take time to find the right home or champion within a large organization for an initiative as new as a new gTLD. Time issues were cited by nearly 19 of the 37 respondents, with 11 citing this as their #1 constraint to participation. Many interviewees either heard about the program too late or said they simply did not have enough time to fully explore the idea.[375]

Applicant Informational Support

Many respondents who were aware of the program cited a lack of complete information and/or clear communication as key constraints to participation. Communications around the program were described by interviewees as "complicated" and "dense," and "more for insiders than for me or the general public."[376] Information around program deadlines, application costs, and longer-term costs were all cited as areas where information was either hard to understand or poorly understood. Inadequate information about program was mentioned by 30 of the 37 respondents as a constraint, with 10 of them ranking the lack of information as their #1 concern.[377] The Nielsen survey of applicants revealed a general insufficiency of information from ICANN with only 49% of applicants saying they got enough information from ICANN.[378]

Given the high propensity (62% of applicants) to use some form of consulting services[379] it stands to reason that such services would be in even higher demand in underserved markets. It is not clear the sufficient support was available to potential applicants in the Global South.

Commented [jD65]: Edit from **Brian** on April 26, 2017: ICANN, "New gTLD Program Global Consultation and Outreach Events."

Commented [jD66]: Edit from **Brian** on April 26, 2017: Ibid.

Commented [jD67]: Edit from **Brian** on April 26, 2017: Ibid.

Commented [jD68]: Edit from **Brian** on April 26, 2017: Ibid.

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[373] "New gTLD Program Global Consultation and Outreach Events."
[374] Avri Doria, "The need for a remedial gTLD program for #newgtlds," accessed 25 January 2017, http://avri.doria.org/post/74920388723/the-need-for-a-remedial-gtld-program-for-newgtlds
Constantine, "Role of influencers and media in ICANN's TLD global awareness campaign: How ICANN can create a strong value proposition with new Top-Level Domain extensions to benefit the Internet," *MyTLD*, 9 July 2011, accessed 25 January 2017, http://mytld.com/articles/3018-influencers-media-icann-top-level-domains-tld-benefits-internet.html
[375] AMGlobal, New gTLDs and Global South (2016).
[376] AMGlobal, New gTLDs and Global South (2016).
[377] AMGlobal, New gTLDs and Global South (2016).
[378] Nielsen, ICANN Application Process Survey (2016).
[379] Nielsen, ICANN Application Process Survey (2016).

The Applicant Support Program (ASP) is a program that was conceptualized by the Joint Applicant Support Working Group (JASWG) in order to provide assistance to gTLD applicants in underserved regions and communities to ensure worldwide accessibility and competition within the New gTLD Program. Entities interested in the ASP had three options:

- Access to pro bono services for startup gTLD registries through the Applicant Support Directory- New gTLD applicants, particularly from developing countries were able to obtain financial and technical information or assistance from members of the ICANN community who had agreed to provide financial or nonfinancial pro-bono services.
- Apply for financial assistance – Reduced evaluation fees were provided to qualified applicants
- The Applicant Support Fund – A $2,000,000 seed fund was set aside by ICANN to help needy applicants.[380]

The nonfinancial support part of the Applicant Support Program[381] called for community volunteers to provide pro bono services to potential applicants. In total, 20 entities volunteered to provide these services.[382] Approximately 40 potential applicants expressed interest in pro bono support, with half of these potential applicants from the Global South[383]. Unfortunately, efforts by the CCTRT to obtain information from either the volunteers or applicants for support about these efforts were unsuccessful. Consequently, the efficacy of this program cannot be evaluated and better coordination and data collection in subsequent procedures is called for.

Commented [jD69]: Edit from **Brian** on April 26, 2017: Ibid.

Commented [jD70]: Edit from **Brian** on April 26, 2017: Ibid.

Despite the availability of such services, the AMGlobal research revealed concerns centered around the lack of an obvious business plan for a new gTLD for potential applicants from the Global South. This issue was cited by the vast majority 31 out of 37 of respondents – although others, (citing time or information concerns, which were often the first issues raised), ranked this issue as a somewhat lower priority concern (only 9 respondents said this was their primary or secondary driver).[384]

A number of applicants across different regions – and especially in Asia and the Middle East – also cited concerns about customer confusion as a major constraint to submitting an application. They wondered if customers would understand and use a new gTLD and expressed concern about the impact of a new gTLD on search engine optimization (SEO).

New gTLD Application and Program Costs

Another concern for potential applicants in developing economies was cost, both of the application process itself as well as running a new gTLD. Accordingly, the JASWG also specified a discounted

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[380] ICANN, "Understanding the Applicant Support Program," accessed 25 January 2017, https://newgtlds.icann.org/en/applicants/candidate-support
[381] "Understanding the Applicant Support Program."
[382] ICANN, "Applicant Support Directory," accessed 25 January 2017, https://newgtlds.icann.org/en/applicants/candidate-support/non- financial-support#organizations-offering-support
[383] "Applicant Support Directory."
[384] AMGlobal, New gTLDs and Global South (2016).

application fee of only $47,000[385] However, there were only three applicants for financial support[386] so it is difficult to assess the effectiveness of the support program.

Price and longer-term running cost were important issues expressed by many interviewees[387]. Although many of the interviewees said they believed their organizations could probably afford the kind of investment needed, almost none had a clear sense of the real costs involved in applying for or running a new gTLD and many felt the cost was just too high for them or potential applicants like them. Consequently, it is difficult to assess the role of cost in decisions not to apply. It seems as though uncertainty surrounding costs was as big an issue as the costs themselves, especially the application fee.

Still, as the ICANN organization implementation review notes, "given the low number of applications submitted, consideration should be given to exploring how the program can be improved to serve its intended purpose."[388]

Recommendations

A number of factors appear to have contributed to the low participation in the new gTLD round by actors in the Global South. These include insufficient programmatic information, market uncertainty, and financial uncertainty. While the need for better programmatic clarity and more substantial outreach may be necessary to increase participation in future rounds, the ICANN community must determine whether increased participation is the ultimate goal. Given the low participation in the DNS itself in the Global South[389], reflected in registrations in existing TLDs, some caution should be exercised in the promotion of subsequent procedures in underserved regions. Some have called for "capacity building" to lay the necessary groundwork for new registries[390] but, absent market demand for domains in general, effort to expand participation in these markets might be better placed elsewhere.

One counterpoint is that several respondents in the AMGlobal survey indicated interest in applying for a string in a future round[391]. This suggests that the provision of more and better information by ICANN might increase the number of applicants.

Improved Outreach

Beginning the communications process earlier was a common refrain expressed by respondents to the AMGlobal survey.[392] This would allow information about the applicant process to find its way to less technical decision makers and perhaps even the public. Of course, a more extensive public outreach program would represent a considerable commitment by ICANN but the added time might lead to a greater number of applications. In addition, expanded participation in conferences and events where

Commented [jD71]: Edit from **Brian** on April 26, 2017: ICANN, Program Implementation Review (2016).

Commented [jD72]: Edit from **Brian** on April 26, 2017: **Doria**, "The need for a remedial gTLD program for #newgtlds."

Commented [jD73]: Ibid.

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[385] "Understanding the Applicant Support Program."
[386] ICANN, *Program Implementation Review* (January 2016), accessed 25 January 2017, https://www.icann.org/en/system/files/files/program-review-29jan16-en.pdf
[387] AMGlobal, New gTLDs and Global South (2016).
[388] ICANN, *Program Implementation Review* (2016).
[389] "Zooknic ccTLD data."
[390] "The need for a remedial gTLD program for #newgtlds."
[391] AMGlobal, New gTLDs and Global South (2016).
[392] AMGlobal, New gTLDs and Global South (2016).

the audience already exists, for example, by targeting conferences of professional associations, might have a similar effect.

Informational Content

Another reported deficiency in the outreach efforts concerns the content that was provided. This might have been unavoidable given the newness of the program but an emphasis on risk mitigation in outreach efforts seems designed more to put already engaged interests at ease rather than to broadening the appeal of the program. [393] Instead, content focused on successful case studies and business model templates might embolden more tentative players to explore their options.[394] Recognizing that this is challenging (given the need for ICANN as an institution to remain neutral in the competitive landscape), the AMGlobal survey suggests that there may be a real demand for documentation of success cases that can be shared with the potential applicant community. The information needs to be straightforward and aimed at audiences with different levels of technical expertise, with a goal of answering one simple question: if our group, association or organization decides to go forward, what path(s) can we take and what would we get out of it? This is one of most important issues mentioned across numerous markets, and if at all possible, one ICANN needs to address.

Programmatic Costs

There appear to be efforts already underway to reduce application costs and inefficiencies generally. However, the Applicant Support Program, while well intentioned, appears to have missed the mark either in its design or execution. This suggests that greater study on how to subsidize participation from underserved markets is necessary, perhaps, as the staff evaluation suggests, by looking at existing programs from institutions such as the World Bank.

That said, cost was rarely given as the primary rationale for the failure to participate. Instead, cost appears to have been be primarily an informational issue. With a clear business model and sufficient assistance in navigating the application process, it is possible that there will be greater participation in future rounds by applicants from the Global South.

Recommendations

Recommendation 43: Set objectives for applications from the Global South

Rationale/related findings: Applications were few, but there was no concerted effort to encourage them.

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[393] Philip Corwin, "ICANN Road Show Opens on Broadway to Mixed Reviews," accessed 25 January 2017, http://www.internetcommerce.org/icann-road-show-opens-broadway-mixed-reviews/
[394] AMGlobal, New gTLDs and Global South (2016).

To: New gTLD Subsequent Procedures Working Group

Prerequisite or Priority Level: Prerequisite – objectives must be set

Consensus within team: Yes

Details: The Subsequent Procedures Working Group needs to establish clear measurable goals for the Global South in terms of number of applications and even number of delegated strings. This effort should include a definition of the "Global South."

Success Measures: Increased participation by the Global South as demonstrated by increased applications and delegations

Recommendation 44: Expand and improve outreach into the Global South

Rationale/related findings: Low understanding of New gTLD Program in the Global South

To: ICANN organization

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Details: Outreach to the Global South requires a more comprehensive program of conference participation, thought leader engagement and traditional media. This outreach should include cost projections and, potential business models. Furthermore, it is recommended that the outreach program begin significantly earlier to facilitate internal decision-making by potential applicants. The outreach team should compile a list of likely candidates, starting with the work of AMGlobal, and ensure these candidates are part of the outreach effort.

Success Measures: Ideally, success would be measured in appreciable growth in applications from the Global South. In the absence of such growth, ICANN should survey entities in the Global South again to determine the sources of the difficulties that continue to be faced by potential applicants.

Recommendation 45: Coordinate the pro bono assistance program.

Rationale/related findings: Despite the registration of both volunteers and applicants, there is no evidence of interaction.

To: ICANN organization

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Details: Ideally, the pro bono assistance program would be coordinated by the ICANN organization to ensure that communication is successful between volunteers and applicants.

Success Measures: Both volunteers and applicants should be surveyed by the ICANN organization on the success of the interaction between them so that future reforms can be based on better information.

Recommendation 46: Revisit the Applicant Financial Support Program.

Rationale/related findings: Only three applicants applied for support.

To: New gTLD Subsequent Procedures Working Group

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Details: The total cost of applying for a new gTLD string far exceeds the $185K application fee. Beyond efforts to reduce the application fee for all applicants, efforts should be made to further reduce the overall cost of application, including additional subsidies and dedicated support for underserved communities.

Success Measures: Greater participation in the applicant support program.

Preventing Delegations That Would Be Confusing or Harmful

To ensure that the New gTLD Program would not only contribute to Competition, Consumer Trust and Consumer Choice in the Domain Name System (DNS), it was important that the introduction of new gTLDs not be confusing or harmful either to the DNS or to potential users. While the ICANN initial assessment of applications for new gTLDs was intended to assess whether new gTLD strings that had been applied for might adversely affect DNS security or stability, there was also the possibility for the Governmental Advisory Committee (GAC) to provide formal advice to the ICANN Board (following its usual procedures)[395] or via early warnings (GAC EW)[396] to applicants that certain new gTLD applications might be confusing or harmful. There were no limitations or restrictions on the nature or type of GAC EW, although the GAC had indicated that strings that could raise sensitivities include those that "purport to represent or that embody a particular group of people or interests based on historical, cultural, or social components of identity, such as nationality, race or ethnicity, religion, belief, culture or particular social origin or group, political opinion, membership of a national minority, disability, age, and/or a language or linguistic group (nonexhaustive)" and "those strings that refer to particular sectors, such as

[395] ICANN, *gTLD Applicant Guidebook* (2012). The AGB addressed the procedures for GAC Advice on new gTLDs in section 1.1.2.7 and 3.1.

[396] Ibid, Section 1.1.2.4. GAC EW had to be submitted during the public comment period, did not require consensus of other GAC members (unlike GAC advice to the Board), had to be submitted via the ICANN Board and did not constitute a formal objection. GAC EW advice was intended to "address applications …identified by governments to be problematic, e.g., that potentially violate national law or raise sensitivities"

those subject to national regulation (such as .bank, .pharmacy) or those that describe or are targeted to a population or industry that is vulnerable to online fraud or abuse."[397]

The idea behind GAC Early Warning was that advance indications of potential problems would either stop particularly problematic applications at an early stage (thus permitting the applicant to recover the bulk of its application fee)[398] or be adjusted to meet the public policy concerns raised by the GAC EW.

The CCT Review Team assessed whether GAC early warnings influenced or affected the new gTLD applications by ensuring that delegations that might be confusing or harmful were stopped or limited. GAC EWs had an influence on a number of new gTLD applications regarding consumer protection or applicable law and was instrumental in withdrawals of some applications involving geographic names.[399]

The Review Team looked at the number of GAC EWs that were made with respect to withdrawn applications, the reasons for those withdrawals, and whether any GAC EWs were directly responsible for applications being put on hold and the reasons why that was the case. Of the 1,930 applications, 575 were withdrawn[400] by the applicants. Of the 187 applications that received GAC EW advice, as of December 2016, 89 were delegated and 65 were withdrawn. Most withdrawn applications related to multiple applications for the same string. Most substantive withdrawals related to conflicts with geographic names: for example, Guangzhou (of which there were two); .roma and .zulu. This is a limited number and the majority of withdrawals do not appear to be directly related to the GAC EW per se but to multiple applications for the same name.

Another issue addressed by the Review Team was whether GAC EW advice was associated with the addition of public interest commitments (PICs) intended to reduce potential harm to consumers and whether GAC EW advice resulted in any other changes to new gTLD applications. Of the 84 delegated gTLDs that received GAC EWs, 50 added PICs, primarily for sensitive or regulated sectors like: .tax; .doctor; .casino, etc. It is possible that the specific GAC EW advice in these cases encouraged the applicants to add PICs intended to protect consumers. A further review of the linkages between PICs relating to consumer protection and GAC Advice can be found in Chapter IX of this report.

Another example is the cases of .halal and .islam. GAC EW advice, which initially resulted in the delegation being put on hold are now the subject of IRP proceedings.[401] In a 4 November 2013 letter

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[397] Ibid, p. 1-8.
[398] Ibid, p. 1-42. The refund available to an applicant within 21 days of a GAC EW was 80% of the application fee or US$148,000.
[399] The introduction of public interest commitments, which was the subject of GAC advice to the ICANN Board on the New gTLD Program, is addressed in Chapter IX of this report. .
[400] It should be noted that these include multiple applications for the same string. Number of withdrawn applications, and applications that received GAC EW is calculated as of December 2016.
[401] "GAC Early Warning -- Submitted Halal-AE-60793," accessed 24 February 2017, https://gacweb.icann.org/display/gacweb/GAC+Early+Warnings?preview=/27131927/27197890/Halal-AE-60793.pdf; "GAC Early Warning -- Submitted Islam-AE-23450," accessed 24 February 2017, https://gacweb.icann.org/display/gacweb/GAC+Early+Warnings?preview=/27131927/27197891/Islam-AE-23450.pdf; "GAC Early Warning -- Submitted Islam-IN-23459," accessed 24 February 2017, https://gacweb.icann.org/display/gacweb/GAC+Early+Warnings?preview=/27131927/27197989/Islam-

from the Organization of Islamic Cooperation (OIC) to the GAC Chair, the OIC requested that its letter be considered an "official opposition of the Member States of the OIC towards probable authorization by the GAC allowing the use of […] .ISLAM and .HALAL by any entity not representing the collective voice of the Muslim people."[402] In a 7 February 2014 letter, ICANN noted to the applicant that there seems to be a conflict between the commitments made in the applicant's letters and the concerns raised in letters to ICANN urging ICANN not to delegate the strings. Given these circumstances, the NGPC stated that it would not address the applications further until such time as the noted conflicts have been resolved.[403]

Overall GAC EW appears to have been a useful and timely component of the public comment period, permitting applicants to ensure that public policy or related concerns could be addressed prior to delegation. It also permitted withdrawal of an application and reimbursement of part of the application fee in certain cases.

Recommendation 47: As required by the October 2016 Bylaws, GAC consensus advice to the Board regarding gTLDs should also be clearly enunciated, actionable and accompanied by a rationale, permitting the Board to determine how to apply that advice. ICANN should provide a template to the GAC for advice related to specific TLDs, in order to provide a structure that includes all of these elements. In addition to providing a template, the Applicant Guidebook (AGB) should clarify the process and timelines by which GAC advice is expected for individual TLDs.

Rationale/related findings: The early warnings provided by GAC members helped applicants to improve delegated gTLDs by ensuring that public policy or public interest concerns were addressed, and should continue to be an element of any future expansion of the gTLD space. Applicants could withdraw their applications if they determined that the response or action required to respond to GAC early warning advice was either too costly or too complex and to do so in a timely manner that would permit them to recover 80% of the application cost[404].

Where general GAC advice was provided by means of communiqués to the ICANN Board, it was sometimes not as easy to apply to the direct cases.[405] Applying for a gTLD is a complex and time-consuming process and the initial AGB was amended even after the call for applications had closed.

Commented [jD74]: Edit from **Brian** on April 26, 2017: ICANN's Program Implementation Review (2016) shows that although 187 applications received GAC EW, some 350 applications were subject to GAC advice via communiqués to the ICANN Board only and did not have the same advantage of early warning, specificity or predictability.

IN-23459.pdf, "GAC Early Warning -- Submitted Halal-IN-60793," accessed 24 February 2017, https://gacweb.icann.org/display/gacweb/GAC+Early+Warnings?preview=/27131927/27197987/Halal-IN-60793.pdf

[402] Letter from Stephen Crocker to Heather Dryden, dated 11 November 2013, https://www.icann.org/en/system/files/correspondence/crocker-to-dryden-11nov13-en.pdf

[403] "2013-11-20-islam-halal- GAC Register of Advice," accessed 24 February 2017, https://gacweb.icann.org/display/GACADV/2013-11-20-islam-halal

[404] In 2 of the 187 GAC EW cases the applications were withdrawn within 21 days of receiving the early warning, which permitted the applicants to receive the 80% refund (see ICANN Report on Program Implementation Review of 29.01.2015).

[405] ICANN Program Implementation Review (report from January 2016) shows that although 187 applications received GAC EW, some 350 applications were subject to GAC advice via to the ICANN Board only and did not have the same advantage of early warning, specificity or predictability.

Given the recommendations to attempt to increase representation from applicants from the Global South, it would be appropriate to ensure that the clearest possible information and results from the last round were made available.[406]

To: Subsequent Procedures PDP Working Group, GAC, ICANN organization

Prerequisite or Priority Level: Prerequisite

Consensus within team: yes

Table 15 Applications Receiving GAC Early Warning Advice[407]

GAC Early Warning advice and application status

1,930 Total applications	**586** Total withdrawn
12,116 Total delegated	**187** Total GAC Early Warnings

Of the applications with GAC Early Warnings:

- **92** Delegated (of which 50 added PICs—primarily for sensitive or regulated sectors like .tax, .doctor, .casino etc.)
- **67** Withdrawn
- **6** In String Contention
- **2** In PDT
- **12** "Will not proceed" (so will not be delegated, but not withdrawn)
- **9** "On Hold"

Allowing Specific Communities to Be Served by a Relevant TLD

The Applicant Guidebook included a special provision for applications for new gTLDs that could be designated as serving a specific community. Any application wishing to be designated as a community-based gTLD had to show "an ongoing relationship with a clearly delineated community," that the string applied for was "strongly and specifically related to the named community," that there were dedicated registration and use policies for registrants including security verification, and show that the application was endorsed by one or more communities representing the community-based gTLD[408]. All other

Commented [jD75]: Edit from **Brian** on April 26, 2017: ICANN, Applicant Guidebook (2012), Section 1.2.3.1: "Community-based applications are intended to be a narrow category, for applications where there are unambiguous associations among the applicant, the community served, and the applied-for gTLD string. Evaluation of an applicant's designation as community-based will occur only in the event of a contention situation that results in a community priority evaluation. However, any applicant designating its application as community-based will, if the application is approved, be bound by the registry agreement to implement the community-based restrictions it has specified in the application. This is true even if there are no contending applicants." (emphasis added)

[406] See also the discussion on "Application and the Global South" earlier in this chapter.
[407] New gTLD Current Application Status page, https://gtldresult.icann.org/application-result/applicationstatus, status updated as of 23 February 2017. Note that one application with GAC EW is both on hold and in string contention.
[408] ICANN, *gTLD Applicant Guidebook* (June 2012), accessed 25 January 2017, 1.29 https://newgtlds.icann.org/en/applicants/agb, Section 1.2.3.1"Community-based applications are intended to be a narrow category, for applications where there are unambiguous associations among

applications were not presumed to be community-based, however formal objections on community grounds could be raised against any application, even if it had not been submitted as a community application. Of the 62 community objections raised, the ICC found in favor of the community in 12 gTLDs, the objectors failed for 31 gTLDs, and objections were dropped for 19 gTLDs.

Where a community had applied for a community-based gTLD and a "standard" applicant had applied for the same gTLD a different evaluation process and criteria applied. The criteria and process for Community Priority Evaluation (CPE) were established to determine whether the community gTLD should be awarded priority in a contention set[409].

The special priority awarded to successful community-based applications meant that other, even well-qualified or highly rated, contending applications would be eliminated. For that reason, the AGB indicated that "very stringent requirements for qualification of a community-based application" would apply, although it was underlined that not meeting the scoring threshold was "not necessarily an indication the community itself is in some way inadequate or invalid."[410]

Commented [jD76]: Edit from **Brian** on April 26, 2017: ICANN, Applicant Guidebook (June 2012), Section 4.9.

Of the 84 community-based applications a very large majority (some 75%) did not prevail in CPE, in part because of the assessment by the external independent evaluator (the Economist Intelligence Unit) of whether or not the applicant(s) adequately represented the specific community[411].

Having noted the disproportionate number of failed applications for the community-based applications, and the queries on the process raised by the GAC and other interested parties, the CCT Review Team considered the ICANN Ombudsman's Own Motion Report[412]. That report assessed both the Applicant Guidebook information and the process for assessing applications. While it found that the process outlined in the Guidebook was not unfair to applicants, the processing of applications could have been clearer and while there had been no inherent unfairness there is certainly room for improving the process in the future, both to ensure a better rate of success of community applications, to avoid inconsistencies between standard and community applicants and to ensure that expectations of

Commented [jD77]: Edit from **Brian** on April 26, 2017: ICANN Ombudsman Blog, "EIU Own Motion Report," 11 October 2015, accessed 25 January 2017, https://omblog.icann.org/index.html%3Fm=201510.html

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the applicant, the community served, and the applied-for gTLD string. Evaluation of an applicant's designation as community-based will occur only in the event of a contention situation that results in a community priority evaluation. However, any applicant designating its application as community-based will, if the application is approved, be bound by the registry agreement to implement the community-based restrictions it has specified in the application. This is true even if there are no contending applicants." (emphasis added)

[409] The community applicant had to score at least 14 points to prevail in a CPE. If those 14 points were not attained then there was no "priority" for the community that claimed it and the contention was treated in the standard way.

[410] ICANN, *Applicant Guidebook* (June 2012), 4.9.

[411] Applications had to show an ongoing relationship with a clearly delineated community, the string itself had to be specifically related to the named community and had to have dedicated registration and use policies for registrants, and the application had to be endorsed by the named community.

[412] ICANN Ombudsman Blog, EIU Own Motion Report (October 2015), accessed 25 January 2017, https://omblog.icann.org/index.html%3Fm=201510.html

applicants were not unnecessarily raised. The Ombudsman's report concluded[413] that some problems had arisen in the CPE process, which while not inherently unfair or warranting rejection of the outcomes did lead to recommendations for changes in any future round. These include "better scope of understanding what community-based applications were for and what sort of persons or organizations would benefit from the use of a community-based top-level domain. Some consideration should have been given to the types of community which could use their own top-level domain, whether these were to be charitable, community organizations or perhaps even NGOs or others."

In addition, the more recent Council of Europe report of November 2016[414]raises a number of observations and recommendations on the process for evaluating and assessing such applications.

Recommendation 48: A thorough review of the procedures and objectives for community-based applications should be carried out and improvements made to address and correct the concerns raised before a new gTLD application process is launched. Revisions or adjustments should be clearly reflected in an updated version of the 2012 AGB.

Rationale/related findings: Given the assessment carried out by the Ombudsman's Own Motion Report, the results of community-based objections, the Council of Europe report on the human rights perspective of those applications, and the interest raised by the ICANN community regarding the relative lack of success of community-based applications (an area where the ICANN community had intended to provide a special entry for communities to gTLDs of particular interest and use for them), it could be expected that there would be a higher rate of success for community-based applications.

To: Subsequent Procedures PDP Working Group

Prerequisite or priority: Prerequisite

Consensus within team: Yes

Effectiveness of the Dispute Resolution Process in Cases of Formal String Objection

The application and evaluation process for the New gTLD Program was described in the ICANN "gTLD Applicant Guidebook" of 4 June 2012, based on the policies developed by the community on the

[413] ICANN, EIU Own Motion Report (2015), 7.
[414] Council of Europe (November 2016), Applications to ICANN for Community-Based New Generic Top-Level Domains (gTLDs): Opportunities and Challenges from a Human Rights Perspective, accessed 24 February 2017, https://rm.coe.int/CoERMPublicCommonSearchServices/DisplayDCTMContent?documentId=090000168 06b5a14

Commented [jD78]: Edit from **Brian** on April 26, 2017: Ibid., p. 7.

demand, benefits and risks of new gTLDs, the selection criteria that should be applied, how gTLDs should be allocated, and the contractual conditions that should be required for new gTLD registries.

After the close of the application submission deadline ICANN began assessing administrative completeness of each application and posted for public comment the public portions of complete applications in order to allow the community to submit observations to be considered during the Initial Evaluation review (also carried out by ICANN). Evaluation criteria for that initial review included "string reviews" to determine whether the security or stability problems might arise, including those that might be caused due to "similarity to existing TLDs or reserved names."[415] These comments and the evaluation were distinct from formal objections that could be raised concerning issues going beyond the evaluation criteria.

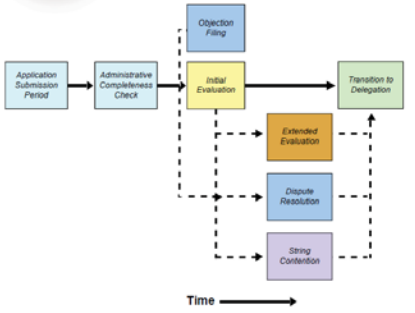
During the same open comment period the ICANN Governmental Advisory Committee (GAC) could issue early warning notices that an application was potentially sensitive or problematic for government(s). These early warnings were not formal objections but their substance might be developed into a formal objection if not resolved.[416]

In addition to the public comments, objections could be filed by third parties to protect specific rights and a dispute resolution[417] mechanism was established in order to resolve cases that went beyond ICANN's initial evaluation of applications.

Commented [jD79]: Edit from **Brian** on April 26, 2017: ICANN, Applicant Guidebook (2012), pp. 1-9. Initial evaluation panels were established to review string similarity, DNS stability and geographic names. The initial review also included an assessment of the required technical, operational and financial capability of the applicant. As noted in the section on competition, the use of back-end providers means that technical capability of an applicant could be achieved by using third-party assistance.

[415] ICANN, *gTLD Applicant Guidebook* (June 2012), accessed 12 January 2017, https://newgtlds.icann.org/en/applicants/agb, pp. 1-9. Initial evaluation panels were established to review string similarity, DNS stability and geographic names. The initial review also included an assessment of the required technical, operational and financial capability of the applicant. As noted in the section on competition, the use of back-end providers means that technical capability of an applicant could be achieved by using third-party assistance.
[416] See the "Preventing Delegations that Would Be Confusing or Harmful" section of this report for a review of the GAC Early Warning process.
[417] ICANN, *Applicant Guidebook* (2012), pp. 1-12, 1-14, Sections 1.1.2.6 and 1.1.2.9

Table 16 Application Process Stages[418]



Once submitted to ICANN, applications will pass through multiple stages of processing.

The grounds for objection were developed to implement the GNSO recommendations relating to string confusion, community objections, limited public interest or violation of legal rights and were explained in the Applicant Guidebook. Dispute resolution proceedings were carried out by three different service providers selected by a public call for expressions of interest.[419]

In order to provide a rough assessment of the effectiveness of the process, the CCT Review Team analyzed both the number and nature of objections that were filed after the initial assessment by the ICANN organization[420] and the outcomes of those objections. In particular, we assessed the results of singular/plural string confusion objections and identified some improvements that might be made to the process of application and evaluation in any new launch of gTLDs.

Commented [jD80]: Edit from **Brian** on April 26, 2017: ICANN, Program Implementation Review (2016), p. 104. The following organizations carried out the proceedings: International Center for Dispute Resolution (ICDR) for string confusion, Arbitration and Mediation Center of the World Intellectual Property Organisation for legal rights objections, and International Center for Expertise of the International Chamber of Commerce for community objections and limited public interest objections.

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[418] ICANN, gTLD Applicant Guidebook (2012), 1-4

[419] ICANN, *Program Implementation Review* (January 2016), accessed 13 January 2017, https://www.icann.org/en/system/files/files/program-review-29jan16-en.pdf , p. 104. The following organizations carried out the proceedings: International Center for Dispute Resolution (ICDR) for string confusion, Arbitration and Mediation Center of the World Intellectual Property Organisation for legal rights objections, and International Center for Expertise of the International Chamber of Commerce for community objections and limited public interest objections.

[420] ICANN, *Applicant Guidebook* (2012), Sections 2-2, 2-4. An initial evaluation was carried out by ICANN staff which looked at "String similarity, Reserved names, DNS stability and Geographic names.." and in particular "Whether the applied-for gTLD string is so similar to other strings that it would create a probability of user confusion; Whether the applied-for gTLD string might adversely affect DNS security or stability; and Whether evidence of requisite government approval is provided in the case of certain geographic names"

Four types of objections (after initial ICANN assessment) were possible:

- String confusion (also involving singular and plural versions of the same word)[421]
- Community objections (where there was substantial opposition from a significant portion of the community that the string targets)[422]
- Limited public interest objection (these were objections on the grounds that the gTLD applied for contradicted generally accepted legal norms of morality and public order recognized under principles of international law)
- Legal rights (of the objector were claimed to be violated)[423]

Commented [jD81]: Edit from **Brian** on April 26, 2017: ICANN GAC, "Beijing Communique." The GAC advised in its communiqué of 11 April 2013 that single and plural versions of the same word could create confusion for consumers and should be avoided.

Our review of the outcome of the dispute resolutions relating to string confusion objections showed that there were 230 exact match sets (i.e. multiple applicants for the same gTLD and in some cases up to 10 to 13 applicants for the same gTLD such as .app, .book, .blog etc.), the majority of which were resolved.[424] However a few are still on hold at the time of writing, including for example .gay/.home/.cpa/.llp/.hotel/.llc/.mail/.llc/.inc/.corp. It should be noted that many applications had objections filed on more than one ground (for example community plus limited public interest or confusability plus community).

String confusion objections were brought before the International Centre for Dispute Resolution (ICDR) (the international division of the American Arbitration Association (AAA)) From the cases reviewed by the CCT of the outcome of ICDR panels on objections to new gTLD applications regarding similarity between the singular and plural version of the same gTLD, it would appear there was not a clear consistent ruling in all cases. In some cases, singular and plural versions were not considered to be confusingly similar (for example .car/.cars) whereas in other cases the plural was considered to be confusingly similar (for example .pet/.pets; .web/.webs; .game/.games).

It would appear that inconsistency in outcome on singular/plural cases arose because the DRSP process allowed for different expert panelists to examine individual cases although they were based on similar situations. Although this was intended to give the panelists latitude to consider the facts of each individual application, it also meant that different expert panelists could come to different conclusions in cases that otherwise might have been considered to have similar characteristics. This could be avoided in future by ensuring that all similar cases of plural versus singular strings were examined by the same expert panelist or by determining in advance that strings would not be delegated for singular and plurals of the same gTLD. All such similar applications would be resolved either by negotiation between

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[421] ICANN Governmental Advisory Committee (11 April 2013), *Beijing Communique*, accessed 17 January 2017, https://www.icann.org/en/system/files/correspondence/gac-to-board-18apr13-en.pdf. The Governmental Advisory Committee (GAC) advised in its communique of 11 April 2013 that single and plural versions of the same word could create confusion for consumers and should be avoided.
[422] See the "Allowing Specific Communities to be Served by a Relevant TLD" section of this report for a review of community objections.
[423] ICANN, *Program Implementation Review* (2016), p. 104.
[424] Ibid., p. 64.

the parties (private auction) or by ICANN auction. Whatever the option chosen, it should be made clear in the application and evaluation guidebook in advance.

Further, there was no appeal mechanism foreseen after the dispute resolution panel had taken its decision. This meant that some unsuccessful objectors then sought to have their cases considered either by the ICANN Board or the ICANN Ombudsman for resolution via ICANN Accountability Measures. In order to avoid different solutions to similar problems and consistency of outcome, and to ensure a fairer process overall in all objection cases, introducing a post-dispute resolution panel review mechanism (as proposed in the ICANN Program Implementation Review) should be considered.[425]

From the initial information available the conclusions are:

Recommendation 49: The Subsequent Procedures PDP should consider adopting new policies to avoid the potential for inconsistent results in string confusion objections. In particular, the PDP should consider the following possibilities:

1) Determining through the initial string similarity review process that singular and plural versions of the same gTLD string should not be delegated
2) Avoiding disparities in similar disputes by ensuring that all similar cases of plural versus singular strings are examined by the same expert panelist
3) Introducing a post dispute resolution panel review mechanism

Rationale/related findings: From a review of the outcome of singular and plural cases, it would appear that discrepancies in outcomes arose because the Dispute Resolution Service Provider (DRSP) process allowed for different expert panelists to examine individual cases, although they were based on similar situations. This meant that different expert panelists could come to different conclusions in cases that otherwise might have been considered to have similar characteristics

ICANN Program Implementation Review 2016 found that there was no recourse after the decision taken by an expert panel. Given that there appear to be inconsistencies in the outcomes of different dispute resolution panels, it would be useful to ensure a review mechanism.

There appear to be inconsistencies in the outcomes of different dispute resolution panels regarding singular and plural versions of the same word, which *a priori* (and according to the GAC advice of 2013) should be avoided in order to avoid confusing consumers.

To: Subsequent Procedures PDP Working Group

Prerequisite or Priority Level: Prerequisite

Consensus within team: Yes

Success Measures: No string confusion objections are filed for cases of singular and plural versions of the same string. Or, should singular and plural versions be allowed, objection panels evaluate all such cases with a consistent approach such that all single or plural disputes are resolved in the same manner.

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[425] Ibid., p. 114

Recommendation 50: A thorough review of the results of dispute resolutions on all objections should be carried out prior to the next CCT review.

Rationale/related findings: Given inconsistencies of outcome of some similar cases, the fact that three different tribunals reviewed four different kinds of objections, that there was no right of appeal following the outcome of those findings and the particular case of community objections,[426] it is important that a full, analytical review be carried out of the overall process.

To: Subsequent Procedures PDP Working Group

Prerequisite or Priority Level: Low

Commented [jD82]: Edit from **Brian** on April 26, 2017: See Council of Europe (November 2016), Applications to ICANN for Community-Based New Generic Top-Level Domains (gTLDs): Opportunities and Challenges from a Human Rights Perspective, accessed 24 February 2017, https://rm.coe.int/CoERMPublicCommonSearchServices/DisplayDCTMContent?documentId=09000016806b5a14 and ICANN Ombudsman Blog, "EIU Own Motion Report," October 2015.

[426] See Council of Europe (November 2016), *Applications to ICANN for Community-Based New Generic Top-Level Domains (gTLDs): Opportunities and Challenges from a Human Rights Perspective*, accessed 24 February 2017, https://rm.coe.int/CoERMPublicCommonSearchServices/DisplayDCTMContent?documentId=09000016806b5a14 and ICANN, Chris LaHatte, "EIU Own Motion Report (*ICANN Ombudsman Blog*, 11 October 2015), https://omblog.icann.org/index.html%3Fp=1167.html

Table 17

List of single/plural strings applied for and delegated (in yellow highlight)

.tour	.tours
.web	.webs
.sport	.sports
.kid	.kids
.gift	.gifts
.game	.games
.deal	.deals
.coupon	.coupons
.car	.cars
.fan	.fans
.home	.homes
.hotel	.hotels
.hotel	.hoteles
.loan	.loans
.market	.markets
.watch	.watches
.pet	.pets
.photo	.photos
.property	.properties
.review	.reviews
.supply	.supplies
.work	.works
.auto	.autos
.cruise	.cruises
.career	.careers
.accountant	.accountants

Appendix A: Glossary of Terms

Term	Acronym (if applicable)	Definition
Applicant Guidebook	AGB	A document describing the requirements of the new gTLD application and evaluation processes.
American Standard Code for Information Exchange	ASCII	Character encoding based on the English alphabet.
Botnet Command-and-Control	Botnet C2	Using domain names as a way to control and update botnets, which are networks of thousands to millions of infected computers under the common control of a criminal. Botnets can automate and amplify the perpetration of many forms of DNS abuse.
Compromised Domains		Domains in which a malicious actor has broken into the web hosting of a registrant for the express purpose of engaging in DNS abuse.
Country Code Top-Level Domain	ccTLD	A class of top-level domains only assignable to represent countries and territories listed in the ISO 3166-1 standard. See http://www.iana.org/domains/root/db.
DNS Abuse		Intentionally deceptive, conniving or unsolicited activities that actively exploit the DNS and/or the procedures used to register domain names.
Domain Name System	DNS	The global hierarchical system of domain names.
Governmental Advisory Committee	GAC	An ICANN committee comprising appointed representatives of national governments, multinational governmental organizations and treaty organizations, and distinct economies. Its function is to advise the ICANN Board on matters of concern to governments. The GAC operates as a forum for the discussion of government interests and concerns, including consumer interests. As an Advisory Committee, the GAC has no legal authority to act for ICANN, but will report its findings and recommendations to the ICANN Board.
Generic Names Supporting Organization	GNSO	ICANN's policy development body for generic TLDs and the lead in developing policy recommendations for the introduction of new gTLDs. The GNSO is the body of six constituencies: the Commercial and Business Constituency, the gTLD Registry Constituency, the Internet Service Provider(ISP) Constituency, the Non-Commercial Constituency, the Registrar Constituency, and the Intellectual Property (IP) Constituency.
Generic Top-Level Domain	gTLD	The global hierarchical system of domain names.
Internet Assigned Numbers Authority	IANA	IANA is the authority originally responsible for overseeing Internet Protocol (IP) address allocation, coordinating the assignment of protocol parameters for Internet technical standards, managing the DNS (including delegating top-level domains), and overseeing the root name server system. Under ICANN, IANA distributes addresses to the Regional Internet Registries, coordinates with the IETF and other technical bodies to assign protocol parameters and oversees DNS operation.
Internationalized	IDN	A domain name consisting, in whole or in part, of

Domain Name		characters used in the local representation of languages other than the basic Latin alphabet (a–z), European-Arabic digits (0–9) and the hyphen (-).
Malicious Registrations		Domains registered by malicious actors for the express purpose of engaging in DNS abuse.
Malware		Software intended to damage, disable or otherwise gain access to the computer systems of others in order to engage in various forms of DNS abuse.
Public Interest Commitment	PIC	PICs are safeguards enumerated in Specification 11 of the Registry Agreement, which are intended to hold registry operators to certain standards. PICs are a mechanism to allow registry operators to commit to binding contractual obligations that may be enforced by ICANN Compliance and via the Public Interest Commitments Dispute Resolution Procedure (PICDRP).
Public Interest Commitment Dispute Resolution Procedure	PICDRP	A dispute resolution procedure established to address complaints that a Registry Operator may not be complying with the Public Interest Commitments set forth in Specification 11 of its Registry Agreement.
Phishing		A form of DNS abuse in which a website address or link is sent via email to Internet users to direct them to a website that fraudulently presents itself as a trustworthy site with the purpose of deceiving those users into divulging sensitive information (e.g., online banking credentials or email passwords). The goal of phishing is usually the theft of funds or other valuable assets.
Registry Agreement	RA	The agreement executed between ICANN and successful gTLD applicants.
Registry Services Evaluations Policy/Registry Services Evaluation Process	RSEP	RSEP is ICANN's process for evaluating proposed gTLD registry services or contractual modifications for security, stability or competition issues.
Registry Services Provider	RSP	A company that manages the operations of a TLD on behalf of the TLD owner or licensee. The RSP keeps the master database and generates zone files to allow computers to route Internet traffic using the DNS.
Security and Stability Advisory Committee	SSAC	An advisory committee to the ICANN Board composed of technical experts from industry and academia, as well as operators of Internet root servers, registrars and TLD registries.
Spam		Bulk unsolicited emails sent from domains that are used to advertise websites. Spam is often an avenue for phishing and malware distribution.
Top-Level Domain	TLD	A name at the top of the DNS naming hierarchy. It appears in domain names as the string of letters following the last dot, such as “net” in www.example.net. The TLD administrator controls which second-level names are recognized in that TLD. The administrators of the root domain or root zone control which TLDs are recognized by the DNS.
Trademark Clearinghouse	TMCH	A repository for trademark data supporting rights protection services offered by new gTLD registries.
Uniform Domain Name Dispute Resolution Policy	UDRP	A policy under which challenges to domain name registrations are resolved by a mandatory online arbitration based upon written statements and

		arguments. All ICANN-accredited registrars follow a uniform dispute resolution policy.
Uniform Rapid Suspension	URS	The URS provides trademark holders with a streamlined and quick mechanism to "take down" clear cases of infringements domain names. A successful proceeding will result in the suspension of the domain name for the balance of its registration term. Compliance with URS decisions is mandatory for all new ICANN-accredited gTLD operators.

Appendix B: Review Process

Founding Documents

The CCTRT prepared Terms of Reference[427] and several iterations of the Work Plan,[428] which was regularly updated, to guide its work. The two founding documents were adopted in March 2016. The Terms of Reference set the Review Team's mandate, includes detailed definitions of key concepts, outlines the expected deliverables and establishes ground rules pertaining to the process, engagement and tools used to conduct work. The Work Plan identifies milestones and deliverables in the CCTRT's lifecycle, lists data elements to be considered and establishes timelines.

The CCTRT adopted a conflict of interest policy in March 2016.[429] All members' declarations were submitted in accordance with the policy and made public on the CCTRT wiki.[430] All CCTRT calls began with a request to provide updates to statements of interests.

Modus Operandi

The CCTRT conducts its work on publicly archived mailing lists.[431] Its meetings and conference calls are open to silent observers. Observers are also welcome to subscribe to mailing lists with viewing rights only. Activities of the Review Team are documented on a public wiki space.[432]

The CCTRT operates in a consensus fashion.

Subteams

Its mandate being threefold, the CCTRT decided to conduct its work through three subteams: (1) Competition and Consumer Choice; (2) Safeguards and Consumer Trust and (3) the Application and Evaluation Process of the New gTLD Program.

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[427] Competition, Consumer Trust and Consumer Choice Review Team (23 March 2016), *Terms of Reference,* accessed 23 January 2017, https://community.icann.org/download/attachments/58727379/CCTRTToRDRAFTv6.pdf?version=1&modificationDate=1458753064411&api=v2

[428] Competition, Consumer Trust and Consumer Choice Review Team (23 March 2016), *Work Plan,* accessed 23 January 2017, https://community.icann.org/download/attachments/58727379/DRAFT%20workplan%20v2.pdf?version=1&modificationDate=1458753104114&api=v2

[429] Competition, Consumer Trust and Consumer Choice Review Team (9 March 2016), *Conflict of Interest Policy*, accessed 23 January 2017, https://community.icann.org/download/attachments/58732354/CoIPolicy-CCTReviewTeam-revised9March2016.pdf?version=1&modificationDate=1459161203000&api=v2

[430] ICANN, "Composition of Review Team," modified 26 October 2016, https://community.icann.org/display/CCT/Composition+of+Review+Team

[431] ICANN, "Email Archives," modified 10 May 2016, https://community.icann.org/display/CCT/Email+Archives

[432] ICANN, "Competition, Consumer Trust and Consumer Choice," modified 9 May 2016, https://community.icann.org/display/CCT/Competition%2C+Consumer+Trust+and+Consumer+Choice

- The **Competition and Consumer Choice** subteam – led by Jordyn Buchanan – was tasked with reviewing the available data on competition and consumer choice, requesting additional data or other resources that may assist in their review, and reporting to the larger CCT Review Team on their findings and recommendations. The group utilized the work of Analysis Group, which conducted an ICANN-commissioned economic study on the competitive effects of the New gTLD Program on the domain name marketplace.[433] The Competition and Consumer Choice subteam conducted work on a dedicated mailing list[434] and calls.[435]
- The **Safeguards and Trust** subteam – led by Laureen Kapin and Andrew Bagley – was created to explore two key areas of the review as outlined in section 9.3 of the Affirmation of Commitments: (1) consumer trust; (2) effectiveness of safeguards put in place to mitigate issues involved in the introduction or expansion of new gTLDs. The Safeguards and Consumer Trust subteam conducted work on a dedicated mailing list[436] and calls.[437]
- Although the Effectiveness of the **Application and Evaluation Process of the New gTLD Program** is considered a subteam, it assembles all the members of the full Review Team. Application and Evaluation Process-related discussions were held on plenary calls. The task force – led by Jonathan Zuck – focused its activities around three tracks: (1) successful applicants: determining the challenges successful applicants faced, the support they received and an assessment of the impact of the GAC early warnings on the process; (2) unsuccessful applicants – comprehending causes of failure and the support received; (3) missing applicants – with an emphasis on the developing world, to better understand why these would-be registries did not submit an application.

Template

Building on readings and discussions, the CCTRT teased out sets of high-level questions to be addressed and developed a list of discussion papers. To ensure consistency in the subteams' work leading to draft recommendations, the CCTRT adopted a template that framed the drafting effort.[438]. The CCTRT made its recommendations on fact-based findings.

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[433] Analysis Group, *Phase I Assessment* (2015) and Analysis Group, *Phase II Assessment* (2016)
[434] ICANN, "The cctreview-competition Archives," accessed 23 January 2017, http://mm.icann.org/pipermail/cctreview-competition/
[435] ICANN, "Competition and Consumer Choice - Calls," accessed 23 January 2017, https://community.icann.org/pages/viewpage.action?pageId=58737630
[436] ICANN, "The cctreview-safeguards Archives," accessed 23 January 2017, http://mm.icann.org/pipermail/cctreview-safeguards/
[437] ICANN, "Safeguards and Trust - Calls," accessed 23 January 2017, https://community.icann.org/pages/viewpage.action?pageId=58737319
[438] Competition, Consumer Trust and Consumer Choice Review Team,, *CCTRT Discussion Paper Worksheet,"* accessed 26 January 2017, https://community.icann.org/download/attachments/58727456/Revised%20template%20%28adopted%29.docx?version=1&modificationDate=1471445497000&api=v2

Consensus

The Draft Report and Recommendations were developed in a bottom-up, multistakeholder approach. The Draft Report was circulated for review and comment by the CCTRT from December 2016 to January 2017. The first reading took place during the 7 December 2016 plenary meeting and the final on 16 February 2017. Following the final reading, the Draft Report was sent to the CCTRT for a 24-hour period to relay any additional edits.

The Draft Report is the outcome of extensive work by the CCTRT conducted over the last 12 months, and is the result of 81 calls or meetings. It represents a careful consideration of the data received and a diligent attention to the input received.

Consultations and Outreach Efforts

An outreach plan was designed to ensure that the CCTRT's work was discussed by the entire ICANN community in an adequate and timely fashion.

The CCTRT sought input from the global multistakeholder community throughout the development of its Draft Report. Consultation was conducted through (but not limited to) the following channels:

- Engagement sessions at ICANN meetings, e.g., the CCTRT sought input on its interim recommendations at ICANN57;[439]
- Updates to Supporting Organizations and Advisory Committees through membership representation

In addition, the CCTRT posted blogs, communiqués and videos to document its progress and establish resources for further engagement.

Any community member may contact the CCTRT to share input or ask questions. Any submission to the list input-to-cctrt@icann.org is publicly archived.[440]

In light of the synergies between the CCTRT and New gTLD Subsequent Procedures PDP Working Group mandates, regular coordination calls were held between leadership of both groups to ensure no significant overlap occurs and to complement each other's work. The CCTRT notably invited the Subsequent Procedures PDP Working Group to provide input on the applicant survey questions prior to its launch and sought input on interim recommendations.

In addition, the CCTRT sought input from ICANN's Global Domains Division staff the feasibility of implementing its recommendations, to be shared after the publication of the draft report.

Budget Management

Further to an exchange held with ICANN CFO Xavier Calvez, the CCTRT appointed Jonathan Zuck – CCTRT Chair – as the assigned budget manager in an effort to be fiscally responsible and accountable for its

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[439] ICANN, "ICANN57 Hyderabad: Input to Competition, Consumer Choice, Consumer Trust Review Team," accessed 26 January 2017, https://icann572016.sched.com/event/8czO/input-to-competition-consumer-choice-consumer-trust-review-team

[440] ICANN, "The Input-to-CCTRT Archives," accessed 27 January 2017, http://mm.icann.org/pipermail/input-to-cctrt/

budget management. The budget manager works with the ICANN organization to meet the budget restrictions in place.

Appendix C: Survey and Studies

Several surveys and studies were commissioned prior to the launch of the CCTRT to inform its work:

- An Implementation Advisory Group was convened by the ICANN Board in 2013 to examine a series of potential metrics that were proposed by the Generic Names Supporting Organization (GNSO) and the At-Large Advisory Committee (ALAC). This team, referred to as the IAG-CCT, evaluated the feasibility, utility and cost-effectiveness of adopting several recommended metrics produced by these two groups and issued a set of 66 metrics, which the ICANN Board adopted for the CCTRT to consider.[441] ICANN has been collecting data on many of these metrics.[442] Of the 66 recommended metrics, several included baseline figures that capture a snapshot of behaviors and activity in the domain name marketplace prior to the saturation of new gTLDs. Depending on the metric, the baseline period may span from one year to multiple years prior to the delegation of new gTLDs.
    - The IAG-CCT determined that a subset of the metrics was best evaluated using a consumer and registrant survey. Nielsen's Wave 2 Consumer Survey results were released in June 2016.[443] The study measured Internet users' current attitudes about the gTLD landscape and the DNS, as well as changes in these consumers' attitudes from Nielsen's Wave 1 Consumer Survey, which was conducted in 2015.[444] Internet users were asked about aspects of consumer awareness, consumer choice, experience and trust. The consumer survey's respondents included a representative sample of Internet users from all five ICANN regions and was conducted in each sampled country's relevant language. Results of the Phase 2 study revealed more than half of respondents (52%) were aware of at least one new gTLD, and overall, trust of the domain name industry relative to other technology-related industries has improved.

    - Similarly, Nielsen conducted a global domain name registrant survey, which targeted those who have at least one registered domain name. Survey participants were questioned about their awareness of new gTLDs, as well as their perceived sense of choice, experience and trust related to the current gTLD landscape. Nielsen's Wave 1 Registrant Survey results were issued in September 2015.[445] The CCTRT received the

Commented [jD83]: Edit from **Brian** on April 26, 2017: Implementation Advisory Group for Competition, Consumer Trust, and Consumer Choice (2014), Final Recommendations

Commented [jD84]: Edit from **Brian** on April 26, 2017: ICANN, "Competition, Consumer Trust and Consumer Choice (CCT) Metrics Reporting," accessed 25 January 2017, https://www.icann.org/resources/pages/cct-metrics-rpm-2016-06-27-en

Commented [jD85]: Edit from **Brian** on April 26, 2017: Nielsen, Consumer Research Wave 2 (2016).

Commented [jD86]: Edit from **Brian** on April 26, 2017: Nielsen, Consumer Research (2015).

Commented [jD87]: Edit from **Brian** on April 26, 2017: Nielsen, Registrant Survey (2015).

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[441] Implementation Advisory Group for Competition Consumer Trust and Consumer Choice (26 September 2014), *Final Recommendations on Metrics for CCT Review*, accessed 20 January 2017, https://community.icann.org/display/IAG/IAG-CCT+report

[442] ICANN, "Competition, Consumer Trust and Consumer Choice (CCT) Metrics Reporting," accessed 25 January 2017, https://www.icann.org/resources/pages/cct-metrics-rpm-2016-06-27-en

[443] Nielsen, *ICANN Global Consumer Research Wave 2* (June 2016), accessed 30 January 2017, https://www.icann.org/news/announcement-2-2016-06-23-en

[444] Nielsen, *ICANN Global Consumer Research* (April 2015), accessed 30 January 2017, https://www.icann.org/news/announcement-2015-05-29-en

[445] Nielsen, *ICANN Global Registrant Survey* (September 2015), accessed 30 January 2017, https://www.icann.org/news/announcement-2015-09-25-en

Wave 2 Registrant Survey results on 15 September 2016.[446] Results revealed that new gTLDs included in both phases of the survey to have similar awareness levels, with higher awareness reported in South America and Asia Pacific, and that trust in the industry generally remains high, particularly in Asia.

- A second subset of IAG-CCT metrics aims to measure competition in the new gTLD space based on an analysis of pricing data and other, non-price-related indicia. ICANN engaged the Analysis Group to conduct an economic study which has two primary aims: gauge the pricing practices for domains in new gTLDs against those in the legacy space; and provide a qualitative analysis of other non-price competition indicators, like technical or other business innovations. Analysis Group's Phase 1 Assessment results were delivered in September 2015.[447] Analysis Group's Phase II Assessment describes how the competition metrics established in the Phase I Assessment have changed (or remained the same) as the New gTLD Program expanded over the course of one year.[448] Results of the Phase II economic study, which were delivered in October 2016, revealed a decline in the share of new gTLD registrations attributable to the four and eight registries with the most registrations, and also revealed volatility in the registration shares held by registry operators. CCTRT members provided feedback to Analysis Group on its methodology and approach prior to beginning the Phase II analysis.

- To help the CCTRT assess the effectiveness of the New gTLD Program's application and evaluation processes, as well as safeguards put in place to mitigate abuse, ICANN collaborated with the community to generate the following reports:
  - The Revised Program Implementation Review published in January 2016 examines the effectiveness and efficiency of ICANN's implementation of the New gTLD Program from the staff perspective;[449]
  - The Revised Report on New gTLD Program Safeguards Against DNS Abuse explores methods for measuring the effectiveness of safeguards to mitigate DNS abuse that were implemented as part of the New gTLD Program. It outlines which activities may

Commented [jD88]: Edit from **Brian** on April 26, 2017: Nielsen, Registrant Survey Wave 2 (2016).

Commented [jD89]: Edit from **Brian** on April 26, 2017: Analysis Group, Phase I Assessment (2015)

Commented [jD90]: Analysis Group, Phase II Assessment (2016).

Commented [jD91]: Edit from **Brian** on April 26, 2017: ICANN, Program Implementation Review (2016).

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[446] Nielsen, *ICANN Global Registrant Survey Wave 2* (August 2016), accessed 30 January 2017, https://www.icann.org/news/announcement-2-2016-09-15-en

[447] Analysis Group, *Phase I Assessment of the Competitive Effects Associated with the New gTLD Program* (September 2015), accessed 30 January 2017, https://www.icann.org/news/announcement-2-2015-09-28-en

[448] Analysis Group, *Phase II Assessment of the Competitive Effects Associated with the New gTLD Program* (October 2016), accessed 30 January 2017, https://www.icann.org/news/announcement-2016-10-11-en

[449] ICANN, *Program Implementation Review* (January 2016), accessed 30 January 2017, https://www.icann.org/en/system/files/files/program-review-29jan16-en.pdf

constitute DNS abuse and provides a preliminary literature review examining rates of abuse in new gTLDs and the DNS as a whole;[450] and

- The Revised Report: Rights Protection Mechanism Review evaluates data on key protection mechanisms such as the Trademark Clearinghouse, the Uniform Rapid Suspension System and Post-Delegation Dispute Resolution. The interaction between Rights Protection Mechanisms and other elements of the New gTLD Program are also considered.[451]

Commented [jD92]: Edit from **Brian** on April 26, 2017: ICANN, New gTLD Program Safeguards (2016).

Commented [jD93]: Edit from **Brian** on April 26, 2017: ICANN, Rights Protection Mechanisms Review (2015).

- To supplement the existing data, the CCTRT requested additional surveys and studies to further inform its work:
  - The Competition and Consumer Choice subteam requested from Analysis Group and the ICANN organization additional data points on pricing and registration analyses to help answer research questions on the effectiveness of new gTLDs' expansion in promoting price competition among gTLD operators as well as among registrars and resellers.
  - The Competition and Consumer Choice subteam sought legacy gTLD parking data to complement the new gTLD parking data available on ntldstats.com. The parking data allowed the subteam to carve out a more accurate picture of registrations in each registry, by removing those registration numbers which do not reflect "active" registrations. On a separate note, the Competition and Consumer Choice subteam obtained ccTLD registration data from CENTR and Zooknic.
  - ICANN contracted with SIDN to conduct a study analyzing rates of abusive, malicious and criminal activity in new and legacy gTLDs. The study will focus on the distribution of abusive activities across the DNS, including rates of spam, malware distribution, phishing, and prevalence of botnet command-and-control domains in new and legacy gTLDs from 1 January 2014 to December 2016. A preliminary report is expected in February 2017, with a final report expected by June 2017.
  - At its third face-to-face meeting in June 2016, the CCTRT requested that an applicant survey be commissioned. In addition to addressing topics pertaining to competition, consumer choice and trust, the survey was also tasked with reviewing the effectiveness of the application and evaluation process of the New gTLD Program. The CCTRT sought answers to gain a better understanding of applicants' views on the application process

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[450] ICANN Operations and Policy Research, *New gTLD Program Safeguards Against DNS Abuse: Revised Report* (July 2016), accessed 30 January 2017, https://www.icann.org/news/announcement-2016-07-18-en

[451] ICANN, *Rights Protection Mechanisms Review: Revised Report* (September 2015), accessed 30 January 2017, https://newgtlds.icann.org/en/reviews/rpm/rpm-review-11sep15-en.pdf

among those who completed the process, are actively in progress, and those who withdrew their applications.

- To help inform its assessment of the application and evaluation process, the CCTRT requested that AMGlobal research and conduct interviews with firms, organizations and other institutions that did not apply for new gTLDs, but who may have been considered good candidates for the program as cohorts of similar entities that did apply from the developed world.[452] The purpose of this research was to obtain a deeper understanding of consumer awareness of the New gTLD Program, as well as why more firms from the developing world did not apply to the program. The report was delivered in November 2016 and included recommendations such as creating outreach tools for nonexpert audiences answering their key questions on cost, application process, timing and ICANN itself, another recommendation was to provide the community with a full explanation on the different uses for new gTLDs, answering business model/use case questions the community might have. Regarding future application rounds, the report proposed to develop additional research on the best ways to reach the general public in the Global South and build dialogue around new gTLDs in the public-private sphere; to the greatest extent possible, start preparing the public for the next round as soon as possible.

Commented [jD94]: Edit from **Brian** on April 26, 2017: AMGlobal, New gTLDs and Global South (2015).

- In addition, the CCTRT has identified a survey commissioned by the International Trademark Association (INTA) as a helpful source. The survey assembles information from INTA corporate members, non-INTA corporate members and IP owners on the costs incurred by their clients related to the expansion of the TLD space. Preliminary results of this survey are expected in Q1 2017.

[452] AMGlobal Consulting, New gTLDs and the Global South: Understanding Limited Global South Demand in the Most Recent New gTLD Round and Options Going Forward (October 2016), accessed 25 January 2017, https://community.icann.org/pages/viewpage.action?pageId=56135383

Appendix D: Terms of Reference

The Affirmation of Commitments

The Affirmation of Commitments signed on 30 September 2009 between ICANN and the U.S. Department of Commerce (the "AoC") contain specific provisions for periodic review of four key ICANN objectives, including "promoting competition, consumer trust, and consumer choice."

Under the AoC, ICANN agreed to ensure that as it contemplates expanding the top-level domain space, the various issues that are involved (including competition, consumer protection, security, stability and resiliency, malicious abuse issues, sovereignty concerns, and rights protection) will be adequately addressed prior to implementation. In AOC Section 9.3, ICANN has committed that "when new gTLDs (whether in ASCII or other language character sets) have been in operation for one year, ICANN will organize a review that will examine the extent to which the introduction or expansion of gTLDs has promoted competition, consumer trust and consumer choice, as well as effectiveness of (1) the application and evaluation process and (2) safeguards put in place to mitigate issues involved in the introduction or expansion. ICANN will organize a further review of its execution of the above commitments two years after the first review, and then no less frequently than every four years. The reviews will be performed by volunteer community members and the Review Team will be constituted and published for public comment, and will include the following (or their designated nominees): the Chair of the GAC, the CEO of ICANN, representatives of the relevant Advisory Committees and Supporting Organizations, and independent experts. Composition of the Review Team will be agreed jointly by the Chair of the GAC (in consultation with GAC members) and the CEO of ICANN. Resulting recommendations of the reviews will be provided to the Board and posted for public comment. The Board will take action within six months of receipt of the recommendations."

This document sets forth the terms of reference that the CCTRT will use to carry out its duties under the AoC.

The goal of the CCTRT is to assess the impact of the expansion of the DNS marketplace on competition, consumer trust and consumer choice. In addition, this review shall examine the effectiveness of the application and evaluation process used for the 2012 round of gTLD applications, and the effectiveness of the safeguards enacted to mitigate issues involved in the introduction of new gTLDs. The review defines effectiveness as, "to what degree the process (of implementing the New gTLD Program) was successful in producing desired results/achieving objectives." The CCTRT will analyze both quantitative and qualitative data to produce recommendations for the ICANN Board to consider and adopt.

This inaugural review will lay the groundwork for recurring reviews, which the AoC requires no less frequently than every three years, subject to potential revision of the ICANN bylaws. Those recurring reviews will play an important role in assessing how ICANN continues to meet its commitments in the areas of competition, consumer trust, and consumer choice. This first review will examine the initial impact of the New gTLD Program in these three areas.

Background

ICANN has anticipated this review since the AoC was signed with the U.S. Department of Commerce in 2009. Since that time, the ICANN Board has turned to the community for its input on metrics that may be used for data-based recommendations. To that end, the ICANN Board tasked the GNSO and ALAC to propose metrics in December 2010. In June 2011, at the ICANN meeting in Singapore, a working group was formed to come up with recommended metrics for the CCT review. The working group's goal was to provide the ICANN Board with definitions, measures, and targets that could be useful to the CCT Review Team. In December 2012, the group presented the board with a document detailing 70 recommended metrics, with proposed definitions and three-year targets.

The ICANN Board formed the IAG-CCT in September 2013 to review those recommended metrics and make recommendations to the Review Team based on an evaluation of the feasibility, utility and cost-effectiveness of each of the proposed 70 metrics. The group first met in November 2013, via conference call, then in person at the ICANN 48 meeting in Buenos Aires. In March 2014, the IAG-CCT made an interim recommendation to commission a survey of Internet users and registrants to gauge their sense of trust and choice, and an economic study on gTLD pricing and marketplace. The ICANN Board adopted those recommendations. In September 2014, the IAG-CCT submitted its final recommendations to the ICANN Board, which adopted those recommendations in February 2015. Those recommendations included the collection of 66 metrics related to competition, consumer trust and consumer choice. The IAG-CCT also revised the original recommendations from the GNSO-ALAC working group.

Framework

ICANN's commitment to promoting competition, consumer trust and consumer choice within the New gTLD Program requires a clear understanding of the program's history and its role in ICANN, followed by a focused examination of its development and implementation. As one of the four key objectives to be evaluated as part of the AoC, the CCT review will also help frame how ICANN may approach future rounds of new gTLDs.

Scope

This review shall assess the New gTLD Program's impact on competition, consumer trust and consumer choice. This includes reviewing the implementation of policy recommendations from the launch of the program through delegation and on to general availability. To conduct the evaluation, Review Team members may be asked to review data derived from processes related to the program, as well as broader inputs on marketplace indicators and consumer trends and feedback from the community. While these other inputs are not related to this particular review, the findings and information produced from these may be useful to the CCTRT's work. For those efforts for which this review is critical, to complete their work, the CCTRT shall endeavor to issue its findings and recommendations in a timely manner such that those efforts may take these into consideration. Efforts under way that will rely on the findings and recommendations from this group may follow its progress on the CCTRT wiki page: https://community.icann.org/display/CCT/Competition%2C+Consumer+Trust+and+Consumer+Choice

Data and Metrics

With the ICANN Board's February 2015 adoption of the IAG-CCT's 66 recommended metrics for collection, the ICANN organization has been continuously gathering and publishing data related to most of these metrics on the ICANN website: https://www.icann.org/resources/reviews/cct/metrics.

The February 2015 Board resolution also noted that the IAG-CCT, in its final report, set aside a group of metrics to be revisited by the CCTRT, when it began its work, as they required additional contextual analysis, or might require additional resources to capture the data. These metrics are noted in Table 4 of the IAG-CCT final report (https://community.icann.org/download/attachments/48349551/IAG-CCT%20Final%20report.docx?version=1&modificationDate=1418863127000&api=v2). The ICANN organization may provide their recommendations on feasibility for internal data collection and resources required for metrics that may require external data gathering.

ICANN Evaluation Reports

The AoC mandates an examination of the effectiveness of the application and evaluation processes used in the 2012 round of gTLD applications, including ICANN's implementation of the policy recommendations made for the New gTLD Program. To help inform the CCTRT, staff has compiled and published the Program Implementation Review report to provide staff perspective on the execution of the New gTLD Program, as well as incorporating feedback from stakeholders including applicants, service providers and other community members.

Finally, the review will also consider the effectiveness of safeguards enacted to mitigate abuse. This is understood to include a review of the rights protection mechanisms that were implemented in the program, as well as other efforts to mitigate DNS abuse (such as the various Public Interest Commitments incorporated into Registry Agreements). Reports produced on these topics will provide detailed insight to help the CCTRT enhance its recommendations and establish a proposed order of priority for implementation, as recommended by Recommendation 9 of the CCWG-Accountability proposal.

Definitions

An assessment of this type requires a common understanding of the terms associated with the review: consumer, competition, consumer trust and consumer choice.

Consumer: The term generally refers to a natural person, acting primarily for personal, family or household purposes and may, depending on the context, include businesses and government agencies as well. For the purposes of this review, consumers generally fall into two categories: (1) Internet users and other market participants who make use of domains through DNS resolution, such as by navigating to a URL or sending an email and (2) registrants (and potential registrants).

Consumer trust: The confidence Consumers have in the function, reliability, safety, security, and authenticity of the Domain Name System. This includes (1) trust in the consistency of name resolution; (2) confidence by Internet users that they can safely navigate to a domain name to find and safely use

the site they intend to reach; (3) confidence that a TLD registry operator is fulfilling the registry's stated purpose and (4) confidence by a registrant in a domain's registration process and life cycle.

Consumer choice: The range of meaningful options arising from new entrants and innovations over incumbent offerings available to Consumers for domain names (including in their preferred languages and scripts.)

Competition: The rivalry between two or more parties in the domain name ecosystem (including but not limited to registries, registrars, resellers, registry service providers and registrants) acting independently to secure the business of a third party by offering innovative products and services and or the most favorable terms.

Relevant Market: For the purpose of this review, the CCTRT shall consider the competitive effects, costs, and benefits of the introduction of new gTLDs on the international domain name marketplace, which also includes legacy gTLDs and ccTLDs. Furthermore, the team may explore the impact of the New gTLD Program on the broader "internet identity" (social media, WIX, etc.) market. However, competitive dynamics in the domain name ecosystem unrelated to the introduction of new gTLDs are not in the scope of this review. The Review Team may break down the overall market by sector or region for its review and recommendations.

Process

CCTRT work will be conducted in English via teleconference calls, Adobe Connect web meetings and in person.

Communications and Transparency

1. Teleconferences will be recorded, subject to the right of a member of the CCTRT to take the discussion "off the record." Face to face meetings will be streamed, to the extent practicable and subject to the right of a member of the CCTRT to take the discussion "off the record." Wherever a meeting is taken "off the record," however, the record shall reflect this decision, as well as the underlying considerations that motivated such action.

2. The CCTRT will endeavor to post (a) action items within 24 hours of any telephonic or face to face meeting and (b) streaming video and/or audio recordings as promptly as possible after any such meeting, subject to the limitations and requirements described in subsection (1) above.

3. The CCTRT will maintain a public website, https://community.icann.org/display/CCT/Competition%2C+Consumer+Trust+and+Consumer+Choice, on which it will post: (a) minutes, correspondence, meeting agendas, background materials provided by ICANN, members of the RT, or any third party; (b) audio recordings and/or streaming video; (c) the affirmations and/or disclosures of members of the CCTRT under

the CCTRT's conflict of interest policy; (d) input, whether from the general public, from ICANN stakeholders, from the ICANN organization or Board members, governments, supporting organizations and advisory committees, etc. Absent overriding privacy or confidentiality concerns, all such materials should be made publicly available on the CCTRT website within two business days of receipt.

4. Email communications among members of the CCTRT shall be publicly archived automatically via the CCT-review email cct-review@icann.org.

ICANN Organization Input

CCTRT staff will facilitate additional data gathering and coordinate dialogue with additional staff to provide expertise regarding certain elements of the program or its operations, as appropriate. To inform the CCTRT's work, staff will also solicit outside expertise as requested by CCTRT members and as budget and resources permit.

The ICANN organization may provide written responses to any questions posed by the CCTRT, and/or provide input to the CCTRT in connection with issues that the CCTRT did not raise but which, in the estimation of staff, are relevant to the work of the CCTRT.

The ICANN organization will also provide draft Review Team guidelines and procedures developed with Board oversight, to assist the CCTRT in its deliberations to cover additional topics beyond those identified in this Terms of Reference.

Community Consultations

Staff will also assist the CCTRT leadership at their request with materials, meeting arrangements and facilitating outreach with other ICANN supporting organizations and advisory committees and the ICANN Board, as well as individual community members through comment periods, questionnaires and surveys. The CCTRT will explore other avenues for outreach to the public to engage and collect inputs with respect to this review. This may include community sessions both in person at ICANN meetings or online in Adobe Connect web sessions or any other agreed technology that is convenient to all members, and has the requisite capabilities such as recording of sessions.

Work of Review Team

Decision-Making Within the CCTRT

Under the AoC, the CCTRT is to make recommendations regarding how the New gTLD Program impacted competition, consumer trust and consumer choice.

The CCTRT will seek, but will not require, full consensus with respect to such recommendations. To the extent that the CCTRT is unable to achieve consensus with respect to any such recommendations, its reports and recommendations will reflect the variety and nature of the CCTRT views. (See GNSO types of consensus as noted in Section 3.6 of the GNSO Guidelines for examples.)

Any conflicts of interest that may affect the views of a CCTRT member must be disclosed and addressed in accordance with the conflict of interest policy discussed above. The CCTRT will ensure that all documents are full consensus documents, i.e., they accurately reflect the discussion held.

Meetings

1. Face to Face Meetings: The CCTRT intends to hold its meetings concurrent with ICANN meetings and as needed to advance and complete its review. The CCTRT shall meet in person in Los Angeles on 22–23 February 2016; in Marrakech on 9–10 March 2016; and on additional dates as needed.

2. Telephonic Meetings: In between face to face meetings, the CCTRT and/or working groups of the CCTRT shall conduct regular telephonic meetings. All such meetings shall be publicly noticed on the CCTRT wiki as far in advance as possible, and agendas for each such meeting will be published no fewer than 2 days in advance.

Reporting

1. Members of the CCTRT are, as a general matter, free to report back to their constituencies and others with respect to the work of the CCTRT, unless the information involves confidential information.

2. While the CCTRT will strive to conduct its business on the record to the maximum extent possible, members must be able to have frank and honest exchanges among themselves, and the CCTRT must be able to have frank and honest exchanges with stakeholders and stakeholder groups. Moreover, individual members and the CCTRT as a whole must operate in an environment that supports open and candid exchanges, and that welcomes re-evaluation and repositioning in the face of arguments made by others.

3. Accordingly, the CCTRT will retain the authority to determine that an interaction will be held under the Chatham House Rule: “When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.”

4. Members of the CCTRT are volunteers, and each will assume a fair share of the work of the team.

5. Members of the CCTRT shall execute the investigation according to the plan, based on best practices for fact-based research, analysis and drawing conclusions.

6. Where appropriate, and with the consensus of the CCTRT, the ICANN organization will be used to provide administrative support services related to travel, meeting logistics, and technology. To preserve the independence and integrity of the CCTRT, however, the ICANN organization will perform substantive tasks (e.g., report drafting, etc.) with respect to the work of the CCTRT, as requested. If necessary, the Chair and Vice Chairs of the CCTRT shall propose an approach to providing appropriate support to the CCTRT efforts.

Participation

1. Members could be assisted by parties outside the CCTRT and the ICANN organization when necessary (e.g., for translation purposes), although the emphasis must remain on direct interaction between the named members. CCTRT Observers should not intervene themselves, nor should they be able to substitute for a member who is unable to participate. This applies to conference calls as well as face-to-face meetings. Remote participation possibilities should be provided in cases where a member is unable to attend a face-to-face meeting. Independent experts are deemed to be full Members of the CCTRT.

2. The CCTRT leadership (Chair and Issue Leads) of the working group will coordinate the work of the CCTRT, and will serve as full participants in the substantive deliberations of the CCTRT and in the development of the CCTRT'S deliverables. All members of the CCTRT will have equivalent voting rights.

3. External Experts (if applicable). The External Experts are third parties that may be engaged with to support the CCTRT work. These experts would be those engaged aside from the independent experts, who were chosen to participate in the review. Selection of the experts to support the work of the CCTRT will follow ICANN procurement processes and be conducted by an open ICANN Request for Proposal (RFP). The RFP will be based upon the criteria and expertise that the CCTRT has determined.

Tools /Means of Communications

The CCTRT will endeavor to use online communications capabilities to further its work. In particular, the Review Team will use Adobe Connect meeting rooms in connection with its telephonic meetings. The

materials available in these settings will be made available to the public in keeping with open and transparent processes and the policies contained in this methodology.

Indicators/Metrics

A set of indicators of competition, consumer trust and consumer choice has been adopted by the ICANN Board for consideration in this review.

The CCTRT may identify a methodology for analyzing these metrics. In addition, the CCTRT will take into account reports created to support review of Program Implementation, Rights Protection Mechanisms, and safeguards against DNS abuse. In addition, the CCTRT may identify other sources of data it wishes to help inform in its review.

Finally, the CCTRT may request additional data or reports be generated to support unanticipated aspects of the review.

Deliverables

Interim Recommendations

The CCTRT might make interim recommendations to the GNSO and/or Board to launch new policy development initiatives, or further implementation work on existing policies, in tandem with the review where there is full consensus among the Review Team to do so.

Findings

The CCTRT will present and document its findings on the degree to which the New gTLD Program did or did not enhance overall competition, consumer trust and consumer choice in the gTLD space. Further, the CCTRT will present and document the successes and challenges experienced by the community in the application process and the attempt to mitigate the adverse consequences of the New gTLD Program.

Final Recommendations

1. The CCTRT will try to post its draft prioritized recommendations in December 2016 in order to solicit public comment. Recommendations should be clear, concise, concrete, prioritized and implementable.

2. The recommendations will fall into two categories: those which can be implemented directly by staff and those which require further policy development by the community.

3. These recommendations will be limited to those designed to:

    a. Enhance competition, consumer trust and consumer choice in the gTLD marketplace
    b. Improve elements of the application and evaluation processes
    c. Advance efforts to mitigate abusive activity in the DNS

4. The team will document the rationale it has employed for any individual recommendation, and where possible, provide a quantitative target or metric for measurement of the recommendations' success.

Recommendations to next Review Panel(s)

Based on substantive review of its work, the CCTRT will provide recommendations regarding the procedures and conduct of future reviews as called for in the AoC. To facilitate the collection of this feedback, a survey will be conducted of all CCTRT members to gather information on the process, methodology and procedures used (so that the next CCT Review may be conducted using these lessons learned, and so that lessons learnt are available to subsequent CCT Review Teams).

Conflicts of Interest

The CCTRT has adopted the conflict of interest policy set forth in Attachment A to this Methodology. All member declarations submitted in accordance with the conflict of interest policy will be made public and posted on the CCTRT website.

At every meeting the CCTRT members confirm if declaration has changed.

Timeline

The Review Team will issue the draft report for public comment in December 2016 and solicit input from the community and stakeholders.

The Review Team will review the comments received on its draft recommendations and refine the report with the goal of producing the final recommendations by April 2017.

Appendix E: Participation Summary

Name	Affiliation	Plenary Meetings Attended (Total # of Meetings: 40 – through March 2017)	Face-to-Face Meetings Attended (11 Meeting Days through December 2016)	Competition and Consumer Choice Subteam (15 meetings through December 2016)	Safeguard and Trust Subteam Meetings (16 meetings through December 2016)	Nielsen Subteam Meetings (4 meetings through December 2016)	Application and Evaluation Process (3 meetings through December 2016)
Drew Bagley	Independent Expert	31	11	2	15		
Stanley Besen	Independent Expert	18	11	13	1	1	
Calvin Browne	GNSO	24	10	1	9		
Jordyn Buchanan	GNSO	29	11	15		3	1
Dejan Djukic	ccNSO	25	11	14			1
Jamie Hedlund	ICANN President and CEO rep.	27	8	6	11		
Kaili Kan	ALAC	29	11	12			
Laureen Kapin	GAC Chair rep.	28	11		13	2	2
Gao Mosweu	ccNSO	25	10		15		1

Carlos Raul Gutierrez	GNSO	23	8	5	10	2	
Megan Richards	GAC	28	11	10			
Carlton Samuels	ALAC	22	11		9		
N. Ravi Shankar	Independent Expert	2					
Waudo Siganga	GNSO	21	11	12		2	1
Fabro Steibel	Independent Expert	13	7		6	3	
David Taylor	GNSO	19	10	1	7		
Jonathan Zuck	GNSO	28	11	12	12	3	2

The statements of interest of the Review Team members can be found at https://community.icann.org/display/CCT/Composition+of+Review+Team.

The email archives can be found at https://community.icann.org/display/CCT/Email+Archives.

Appendix F: Possible Questions for a Future Consumer Survey

As referenced in the Data Analysis chapter, the CCTRT would have found it useful to have answers to the following questions, which the Review Team recommends incorporating in the next iteration of a survey of domain name registrants:

What proportion of the registrants in the new gTLDs were previously registrants in a legacy gTLD but gave up their registrations when they registered in a new gTLD? This will provide some indication of the importance of *switching costs*.

1. What proportion of the registrants in the new gTLDs had not previously been registrants in any gTLD? This will provide some indication of the extent to which the introduction of new gTLDs *expanded* the number of individual registrants.
2. What proportion of the registrants in the new gTLDs are entities that continued to have registrations in legacy gTLDs? This will provide some indication of whether registrations in legacy and new gTLDs are *complements* as opposed to *substitutes*.
3. What proportion of the registrants in the new gTLDs registered primarily: (a) for *defensive* reasons, i.e., they felt compelled to register in a new gTLD because they existed but obtained no benefits from doing so and what proportion registered primarily or (b) for the *benefits* that they received, perhaps because doing so permitted them to reach users that would have otherwise been inaccessible? This will provide some indication of whether, on balance, the introduction of new gTLDs resulted in net costs or net benefits to registrants.
4. What are the characteristics of the new gTLDs that attracted registrants primarily because of the benefits that they offered? This will provide some indication of the *sources* of the benefits that the new gTLDs provided, e.g., new allowable characters, service to a specific community, higher levels of security or customer service, ability to offer domain names to noncompeting entities.

The CCTRT recommends ICANN conduct a survey of registrants that would include the following questions:

1. Did you register a new domain name in the last 12 months?
2. For each name that you registered, did you register it in a new gTLD or in a legacy gTLD?
3. For each name that you registered in a new gTLD [Check one]
    - Was the registration a newly registered name?
    - Did the registration replace a registration in a legacy gTLD?
    - Did the registration duplicate a registration in a legacy gTLD?
4. For each name that you registered in a new gTLD, was the closest alternative that you considered another gTLD or a legacy gTLD? What was the identity of that gTLD?
5. For each name that you registered in a legacy gTLD, did you consider registering in a new gTLD as an alternative?
6. For each name that duplicated a registration in a legacy gTLD, was the registration intended *primarily* to prevent the name from being used by another registrant?
7. For each name that you registered, indicate whether it is currently parked.

Although definitions of parking vary, the general idea is that parked domains are not currently being used as identifiers for Internet resources. Examples of behaviors that could be considered parking include:

- The domain name does not resolve.
- The domain name resolves, but attempts to connect via HTTP return an error message.
- HTTP connections are successful, but the result is a page that displays advertisements, offers the domain for sale, or both. In a small number of cases, these pages may also be used as a vector to distribute malware.
- The page that is returned is empty or otherwise indicates that the registrant is not providing any content.
- The page that is returned is a template provided by the registry with no customization offered by the registrant.
- The domain was registered by an affiliate of the registry operator and uses a standard template with no unique content.
- The domain redirects to another domain in a different TLD.

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